Canada

Sugar in Canada

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Suicide in Canada

Report of the National
Task Force on Suicide
in Canada

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FOREWORD

In Ottawa, June 1979, Canada hosted the 10th International Association for Suicide Prevention Congress. For the first time the attention of the Canadian health care community, the media and the Canadian public was focused on questions about suicide in this country. Five years earlier, the federal Minister of Health, Marc Lalonde, had identified suicide as a major public health problem in Canada and as a significant cause of "early death", especially for those under 35, for whom it ranked as the second cause after accidents (Lalonde, 1974). However, as became clear at the time of the Congress, beyond these few facts, little had been learned about the fascinating, frightening and complicated topic of suicide in Canada, nor how it affected the lives of Canadians.

Recognizing this, Health and Welfare Canada established the National Task Force on Suicide in Canada to investigate and better define the dimensions of suicide, and to consider effective strategies of response to the problem.

On March 7, 1980, the members of the Task Force met for the first time. (They were to meet on six occasions altogether.) United by their common desire to learn more about suicide, the members of the Task Force were otherwise best characterized by their diversity. They represented different geographical areas of the country, different cultures, different professional backgrounds, as well as different experiences of suicide and attitudes toward it. As Chairperson, it is my opinion that this diversity of perspectives and philosophies is at once the saving grace of the Task Force's final report and its major flaw. It is the saving grace in that this is an ambitious report; it has an unusual breadth, which reflects the group's appreciation of, and willingness to, investigate the multidimensional nature of suicide. It is a flaw in that consensus of opinion was sometimes impossible to reach, so that clarity of focus is occasionally lost and the potential for selective bias looms larger.

In spite of these shortcomings, it is my belief that the reader will find this Report to be interesting, informative and helpful. Certainly it is the first time that an attempt has been made to describe and document the Canadian experience of suicide and that, in itself, makes the report worthwhile.

I would like to express the appreciation of Task Force members to Dr. Brenda Wattie, Director of the Mental Health Division of Health and Welfare Canada, for her leadership and assistance throughout the period of the Task Force's deliberations. I would also like to thank the succession of able project coordinators who worked with us: Shirley Locke-Winsor, Mary McKittrick, Nena Nera and Carl M. Lakaski. In addition, Irene Marchenko deserves special recognition for the fine work she has done in editing the Report. I would also like to thank Wayne Burke for his assistance in proofreading the text. Finally, on a personal note, I wish to express my gratitude to the Administration of the Toronto East General Hospital and to Dr. John Nkansah, Chief-of-Psychiatry there, for their unfailing support of my involvement in this task.

Diane Syer-Solursh, Ph.D.
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National Task Force on Suicide

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EXECUTIVE SUMMARY

There are many unanswered questions about suicide and a multitude of conflicting theories. The role of environmental influences and mental disorder, the existence and nature of predisposing genetic or biochemical factors, and the parallel issues of proper and productive treatment and prevention – the questions are complex. Suicide is an action; it is not an illness. Identifying the chain of causal and triggering factors – which may in any case be highly individual – and deriving from this an overall prevention and treatment strategy is perhaps one of the most vexing problems facing professionals in the health sciences (Suicide in Canada, 1986).

Given the breadth of research in this area, a comprehensive review of the state of current knowledge was necessary and was undertaken by this Task Force. It was asked to report on the nature and extent of suicide and suicide-related problems, to discuss demographic and sociological parameters, and to identify Canadian groups at greatest risk. It was also asked to summarize our knowledge of aetiological processes and to gather information on programs of suicide prevention, intervention and postvention.

The Task Force makes a series of recommendations. The scope and nature of the recommendations reflect the expertise of the Task Force members. The mental health priorities in any jurisdiction will determine the saliency and urgency of the recommendations. Suicide, however tragic, is a low frequency event having a more limited societal impact than other pressing mental health issues such as the care and treatment of the chronically mentally ill, the mental health needs of victims of violence including battered women and abused or neglected children and the mental health problems associated with aging. In addition, not all the recommendations will apply across Canada. Some may already be incorporated in provincial and local mental health services, or the intent may have been met with service arrangements not anticipated by the Task Force.

Introduction

In the introduction the breadth of the problem is immediately realized. "Suicides do not form, as may be thought, a wholly distinct group." Behaviours which fall under this rubric include: chronic substance abuse, hyperobesity, habitual high-risk-taking behaviour, the willful self-neglect of the elderly and non-compliance with the treatment of serious physical illness. The degree to which such behaviours share a common basis with suicide in cause and treatment is a matter of debate. Nevertheless, it is clear that a recognition of the self-destructive and suicidal aspects of these behaviours is crucial if these disorders are to be effectively diagnosed and treated and, even more importantly, prevented.

In 1983 the rate of suicide per 100,000 Canadians was 15.1 and a recent study has calculated that between 1963 and 1976, a total of more than 2,000,000 years of life were prematurely lost to suicide in Canada (Peters and Termansen, 1982). What makes these figures even more alarming is the probability that under-reporting results in a significant underestimation of the true magnitude of the suicide phenomenon.

Epidemiology

Epidemiological data and comparisons are presented in several tables and figures. Table 1, for example, provides a comparison of suicide rates in Europe with those in Canada. Overall annual rates per 100,000 per annum ranged from a low of 2.9 in Greece to a high of 44.9 in Hungary with a median of 10.0. Canada's rate of 15.1 per 100,000 in 1983 is in the upper half of countries listed. Moreover, Canada's rate now consistently exceeds that of the USA. This section of the report details differences for different age levels in Canada, differences between males and females, and interprovincial differences. For example: "During 1969-73, a striking interprovincial difference was apparent: a gradient of steady increase in male suicide from the east to the west coast." Suicide has also increased nationally since World War II, particularly in males, and evidence from Alberta suggests that the rising incidence is cumulative. Within age groups national figures pin-point the increases among young males aged 20-29, and among those aged 10 to 19. This section of the report also shows a correlation of suicide with many other factors: lack of strong family and social networks, economic declines and unemployment.

Aetiology

Some thirty pages of the report review and summarize current literature on many causal factors. Knowledge concerning cause comes from many professional disciplines and perspectives.

Studies of common personal characteristics and traits are reported, as are studies of family relationships and structure. There are job-related factors as well as findings in terms of social disorganization. Physical illness can be a factor. Of major importance in many suicides is mental disorder. Drug and alcohol abuse are also common factors. Findings concerning the role of stress are discussed, as well as such biological factors as seasonal variation, the menstrual cycle and socio-biochemical and genetic determinants. Some psychoanalytic contributions are briefly noted. The necessity for a 'multidimensional approach' in understanding the causal chain is clearly illustrated and this section ends with discussion of that approach.

Identification of "High-risk" Populations

This chapter overviews Canadian data and literature revealing that several groups are at 'high risk'. Problems such as under-reporting and the effect of certain laws and common attitudes are illustrated. Contributing factors are discussed. The "high-risk" populations identified are:

- those suffering from certain mental disorders
- alcoholics
- young people
- the elderly
- native peoples
- persons in custody
- the bereaved

Prevention, Intervention and Postvention

These three headings are used to discuss strategies and programs for the reduction and prevention of suicide. Prevention deals with measures which might reduce the prevalence or probability of suicidal behaviour. Areas discussed include: public education (through the media and other means), reduction in the availability and lethality of means, and specific education and training programs for health care professionals and gate-keepers.

The category of intervention includes sets of procedures to be used in managing suicidal crises. This involves the development and utilization of specialized techniques in assessment and counselling, and in treatment.

The section on postvention delineates measures to be taken following a suicide. The objective here is twofold: to provide follow-up support and counselling services for the bereaved and to carry out psychological autopsies of the victims of suicide to obtain information on pre-suicidal states and activities. The latter process is a valuable contribution to the understanding of the event for the family, as well as health care workers and researchers.

Prevention

The media have a central role in shaping public attitudes and in public education. There will be a continuing need for mental health professionals knowledgeable about suicide to consult with media representatives in an attempt to mitigate the negative effects of media coverage of suicides. Most members of the media are genuinely concerned about how best to balance the responsibility to keep the public informed and the danger of 'contagion', i.e., describing ways and means to potential suicide victims. One recent report indicated that the decision of Canadian newspaper editors to publicize a suicide is governed by the following criteria: occurrence in a public place; prominence of the victim; effect on other people; and/or the unusual nature of the method involved.

There have long been public education programs aimed at reducing the stigma attached to seeking treatment for states of depression. Education programs could also aim at such things as discouraging the accumulation of lethal amounts of drugs in household medicine cabinets.

The lethality and availability of instruments of suicide is another issue discussed in the context of public education (for example, more stringent control of the distribution of medications, and wherever possible, limitations on the accessibility of "attractive hazards").

In discussing the education of professionals and gate-keepers, the report notes that surveys have revealed a limited level of education about suicide across all disciplines, including undergraduate medicine.

In the Report's discussion of professional education, particular attention is given to physicians, clergy, teachers, the personnel of correctional facilities, police and others, as well as the mental health professions. Examples of several approaches are given. Recommendations are made.

Intervention

Very few Canadian suicide prevention/intervention programs have been carefully evaluated. Here the Task Force found few hard research data but considerable informed opinion and many descriptions of programs. The Appendix gives details of several excellent hospital- or community-based programs.

A general hospital is perhaps the best facility for treatment of self-injuries because it can provide medical and surgical services, as well as the psychiatric skills needed to conduct a thorough assessment and management of the patient.

The Task Force found that Canadian hospitals lack established standards of care for suicidal patients in emergency wards; that there are only a few preliminary protocols in existence and that research in the area is practically non-existent. Suicidal patients in general hospital emergency wards are frequently treated exclusively in terms of the medical aspects of their condition, especially if the self-injury is not considered to be even potentially lethal or, worse still, a mere "gesture". Skilled in surgery or resuscitation, the emergency medical staff may not be skilled in dealing with the personal crisis, family problems, or other factors precipitating the suicidal attempt.

The importance of the interdisciplinary team is illustrated, as are principles in assessing and managing the psychiatric emergency. Immediacy is essential. The person's problems and strengths, the life situation, the potential sources of help must all be assessed. Discussions and negotiation of referral should take place during the initial interview. Specificity of appointment and a minimal waiting period should be imperative. These and other principles are outlined. Recommendations are made.

Postvention

The first aim is reduction of the trauma to the bereaved, who constitute one of the high-risk groups noted earlier.

The second aim for staff is to reconstruct the events leading to the suicide, to provide clarification regarding the nature of the death and the socio-psychological factors within the victim's life, immediately prior to the act. This is the 'psychological autopsy', described in some detail. Data are gathered from "significant others", preferably in the home setting. Typically the individuals interviewed are distraught.

The Task Force found the procedures of the psychological autopsy much less threatening than the quasi-judicial procedures of an inquest which often aggravate the distress. The psychological autopsy is both less intrusive and an avenue for therapeutic intervention. Moreover it can supply researchers with valuable information. Task Force members are aware, however, that some of the objectives of a formal inquest cannot be met by a psychological autopsy.

Programs for 'High-risk' Groups

This section considers existing programs for certain "high-risk" groups. There is considerable discussion of programs for those suffering mental disorder, particularly severe depression and certain types of schizophrenia where the risk is high.

In general an increasing incidence of alcoholism has been noted among individuals who commit suicide. This association warrants the inclusion of alcoholics in the high-risk category. Strategies of prevention and intervention acknowledge the complexity of the relationship, particularly with regard to the overlap with depression and other mental disorders.

In its discussion of the problems for young people and the avenues for prevention and intervention, considerable attention is given to the schools and education as well as counselling and psychiatric services.

In outlining the problems of the elderly and prevention of suicide in this group, the report stresses the importance of comprehensive programs: retirement programs, self-help groups, education of family physicians and public education about the typical personality changes in the suicidal elderly person.

Native peoples are also a high-risk group. Here the importance of a culturally oriented approach is stressed. Some of the most compelling descriptions in this report involve native populations. These descriptions are found in the appendices.

Persons in custody are at high risk also. Self-help, peer group assistance, an inmate watch and many other components of programs are described. Importance is given to educational programs for custodial and police personnel and for improved inter-facility communication.

Contact with the bereaved as soon as possible following a suicide is critical. In programs described, volunteers often play a major role. Again the needs for education and program evaluation are stressed.

Suicide and the Law

This section discusses aspects of the Criminal Code, problems associated with commital under existing Mental Health Acts, and problems concerning confidentiality.

Data Gathering and Research

The report highlights the pressing need for more information, especially concerning specific groups of people and specific programs. The Report contains many recommendations about data gathering, common classification systems, multidisciplinary research, intersectoral collaboration, and so forth.

The Chairperson's Concluding Remarks

Fifteen of the most central conclusions are summarized by the Chairperson. The Report ends on this positive note: "Obviously, members of the Task Force hope that serious consideration will be given to the ideas expressed and suggestions and recommendations put forth in this Report. If even some of these are acted upon, it is felt that the long-range result will be a reduction in both the incidence and impact of suicide in Canada."

1 INTRODUCTION

Suicide is a tragic and perplexing phenomenon which eventually, in one form or another, touches most of our lives. It is also a problem whose increasing incidence has preoccupied professionals from a variety of disciplines on a world-wide basis. Given the breadth of research in this area, there is a need for a comprehensive review of the state of current knowledge, one which may provide a better understanding of the multidimensional nature of the problem. This should yield new directions for research, and assist health care workers and professionals, as well as policy makers, in the development of more effective preventive strategies and intervention techniques.

There are many unanswered questions about suicide and a multitude of conflicting theories concerning the role of environmental influences and mental disorder, the existence and nature of predisposing genetic or biochemical factors, and the parallel issues of proper and productive treatment and prevention. The questions are as complex as they are obvious. Suicide is an action; it is not an illness. Identifying the chain of causal and triggering factors, which may in any case be highly individual, and deriving from this an overall prevention and treatment strategy is perhaps one of the most vexing problems facing professionals in the health sciences.

And yet immediate action is necessary even in the face of imperfect knowledge. Society will not await the development of more scientifically satisfying statistics or models. Thus, the professional and the policy-maker are inevitably forced to design approaches to deal with a problem, the root causes and mechanisms of which we only dimly know. This is an area where educated guesswork not only describes the current state of the field; it is also the basis on which concrete steps must be constructed to reduce the awful toll suicide takes on individuals and on our society.

The best strategy is to cast as wide a net as possible, to derive from the various professional disciplines and voluntary systems whatever clues and findings may exist to assist in the understanding and treatment of the problem. Professional parochialism is a necessary evil in a world where the state of knowledge and the demands of research are so specialized that truly global understanding has exceeded the grasp of the individual. Yet with a problem such as suicide, where causes and treatments are both unclear and probably multi-factorial, an integrated approach is the only appropriate one.

It is a symptom of the fundamental nature of the debate over suicide that the definition of "suicidal behaviour" has itself been a subject of considerable controversy. Of course, suicide in the strictest sense can be defined as intentional, self-inflicted death. Yet there is a range of related behaviours which are obviously self-destructive in nature, insofar as they lead to injury or premature death. Here, however, the aspect of intentionality is both elusive and difficult to define. It is also unclear to what extent such behaviour is qualitively different from suicidal behaviour, or whether it is simply a less extreme manifestation of identical causes or predisposing factors. Emile Durkheim was the first to point to this issue in his classic study, Suicide:

> Suicides do not form, as may be thought, a wholly distinct group, an isolated class of monstrous phenomena unrelated to other forms of conduct, but rather are related to them by a continuous series of intermediate causes. They are merely the exaggerated form of common practices . . . the results from similar states of mind, since they also entail mortal risks not known to the agent, and the prospect of these is no deterrent; the sole difference is a lesser chance of death (Durkheim, 1897/1951).

Subsequent authors have referred to such behaviour as "subintentional suicide", with the individual playing "an indirect, covert, partial or unconscious role in his own demise" (Shneidman, 1973). This concept has been broadened and redefined as "indirect self-destructive behaviour" (Farberow, 1980).

Behaviours which fall under this rubric include: chronic substance abuse, hyperobesity, habitual high-risk-taking behaviour, the willful self-neglect of the elderly and non-compliance with the treatment of serious physical illness. The degree to which such behaviours share a common basis with suicide in cause and treatment is a matter of debate. Nevertheless, it is clear that a recognition of the self-destructive and suicidal aspects of these behaviours is crucial if these disorders are to be effectively diagnosed and treated. Similarly, the prevention of suicide per se may be advanced by the study of these related behaviours.

As was just noted, the element of intention has been considered a key defining characteristic of suicide; related self-destructive behaviours have been seen as somewhat less intentional and self-conscious in nature. The question of intention is linked to the debate as to the rationality of suicide. On the one hand, intention is a necessary condition for suicide to be regarded as rational; goal-directed behaviour is by definition intentional. On the other hand, rationality is not a necessary condition for intentionality. The "intention to die" may be based on irrational factors.

As an escape from adversity, or as an act of heroism, some types of suicide have been regarded by western cultures as "rational". Pretzel has identified four such categories of suicide:

(i) suicide in the service of a "good" cause, such as religious martyrdom or military heroism;
(ii) suicide as an escape from an apparently hopeless and painful situation, such as terminal illness;
(iii) suicide as a solution to a life of abject unhappiness; and
(iv) suicide as an aesthetic act or a demonstration of dedication, such as the so-called "love pact" (Pretzel, 1968).

This range of behaviours prompts two observations. Attitudes towards the rationality of suicide have clearly changed over time; there is little doubt that some Canadians would consider irrational what other countries or times may have seen as not only rational, but laudatory. And secondly, there is an obvious connection between the designation of suicide as "rational" and its social acceptability.

At present, many mental health professionals regard most suicidal behaviour as the result of irrational mental states induced by mental illness. Indeed, as is made clear in this report, there is considerable evidence of a link between certain mental disorders and suicidal behaviour. The problem arises in seeing all suicides as irrational, and in drawing a direct causal link between mental disorder and suicide. Mental disorder is not a sufficient cause of suicide, given the large number of mentally ill individuals who do not commit suicide. On the other hand, the idea that suicide is a rational response to adversity is unacceptable to many. Adversity is common; suicide is rare.

It is not the intention of the Task Force to resolve this controversy; its source and solution lie in further research and in the broader philosophical debate between and within the "hard" and "soft" sciences. Nevertheless, an awareness of this debate is important in reviewing the state of knowledge in the field. Whether or not suicide is rational, or whether or not particular types of suicide are rational, is critical to the design of an effective preventive approach.

It has been estimated that over 1000 people commit suicide every day around the world, with several million attempting suicide every year (World Health Organization, 1982a). In North America and most European countries, suicide has ranked among the top five to ten causes of death for many years. While the mortality rate for some illnesses has declined, this has not been the case with suicide. Suicide prevention has become, therefore, an important issue of public health responsibility.

The first official ministerial recognition of the problem of suicide in Canada came in 1974 with the then Minister of Health Marc Lalonde's "A New Perspective on the Health of Canadians" (Lalonde, 1974). This study found that in 1971 suicide was the fifth ranked cause of "early death", following motor vehicle accidents, ischemic heart disease, all other accidents and respiratory disease and lung cancer. (Early death was defined as death between the ages of one and

seventy.) The annual rate of suicide per 100,000 was 11.9. This subsequently rose to 15.1 per 100,000 in 1983. Using another type of measure, a more recent study has calculated that between 1963 and 1976, a total of more than 2,000,000 years of life were prematurely lost to suicide in Canada (Peters and Termansen, 1982).

What makes these figures even more alarming is the probability that under-reporting results is a serious underestimation of the true size of the suicide phenomenon. As is discussed in this report, only a minority of deaths come to a coroner for autopsy, and coroners are sometimes reluctant to identify a death as suicide, given the desire to minimize family distress. Recent research, exploring the level of suicidal ideation and behaviours in a specific group of the general population, discovered an unexpectedly high degree of suicidal behaviour: 13 per cent had seriously considered suicide; 4.5 per cent had engaged in deliberate self-harm (parasuicide); and 4 per cent had actually attempted suicide (Bagley and Ramsay, 1984).

Although such data requires further analysis, it does point to the possibility of a serious underestimation of the suicidal dynamic in Canadian society. These and other figures, in conjunction with the unacceptably high official rate of suicide in Canada, have prompted a sense of urgency among professionals and officials alike. The formation of the National Task Force on Suicide is a reflection of this concern.

II STRUCTURE AND OBJECTIVES OF THE REPORT

The objectives of the National Task Force on Suicide are summarized by the following terms of reference:

Phase I

1. To make an enquiry into the state of knowledge with respect to epidemiological evidence on the nature and size of suicide and suicide-related problems, attempting to establish demographic and sociological parameters, and identifying Canadian groups at greatest risk.
2. To make an enquiry into the state of knowledge with regard to aetiological processes.
3. To gather information on programs of suicide prevention, intervention and postvention with particular focus on evaluative studies of actual programs.

Phase II

4. To analyze and consider the facts presented, and draw up guidelines and/or recommendations for appropriate action at federal, provincial/territorial or regional levels.
5. To identify areas and topics that require major efforts in research, study and evaluation.
6. To prepare a report of findings for the Assistant Deputy Minister, Health Services and Promotion Branch.
7. To advise on strategies for useful distribution of information on reports and their findings.

To this end, this report is structured along the following lines. Section III outlines the state of knowledge as to the nature of the suicide phenomenon; the epidemiology and aetiology of suicide and parasuicide are examined, and high-risk groups are identified, drawing on all disciplines which may offer useful insights into the problem. Section IV describes various strategies and techniques which the Task Force has identified as particularly promising with regard to the prevention, intervention and postvention of suicide. Particular attention is paid to the issue of improved education, training and treatment modalities for all professional and paraprofessional groups who come into contact with suicidal persons. Section V outlines particular strategies which may be applied to high-risk populations, linking the general epidemiological and aetiological research findings to the specific needs of these groups. Section VI deals with various legal issues arising from the treatment of suicide, and Section VII outlines the requirements which exist for new research and program evaluation in the area. Section VIII, the final section, recapitulates the major conclusions of the Report. There are also eleven appendices which provide essential supporting documentation to the text.

III DEFINITION OF THE PROBLEM

A. EPIDEMIOLOGY

1. INTRODUCTION

Epidemiology may be defined as "the study of the distribution and determinants of diseases and injuries in human populations" (Mausner and Bahn, 1974). Clues to the causes of a given disorder may be found by identifying variations in the frequency with which the condition affects different populations, and then relating these variations to heterogeneity in their environments. For example, John Snow, in studying the cholera outbreak in London of 1849, determined the cause to be contaminated water. He reached this conclusion by observing those districts and households most severely affected by the cholera epidemic and tracing the origin of their water supply to specific reaches of the Thames River. This was fully a generation before the identification of the cholera microorganism by Koch and Pasteur. More recently, the links between tobacco smoking and lung cancer, and between diet and heart disease, have been established beyond reasonable doubt using identical epidemiological methods.

Suicide is not a disease although it may result from mental illness, but it is certainly an "injury" consistent with Mausner and Bahn's (1974) definition of epidemiology. Since data on suicide have been systematically collected by most countries for centuries, beginning with Sweden in 1749 (Murphy, 1982), comparative studies have provided cumulative knowledge and subsequent educated hunches about the causes of suicide.

Comparative study of suicide statistics by population is especially advantageous since prospective investigation of the general public for the purpose of identifying high-risk populations and environmental conditions is not feasible. However, certain identified high-risk groups, such as persons suffering from severe forms of emotional illness, have been followed, ultimately yielding an incidence of suicide of up to 15 per cent for these populations. Such findings cannot be extrapolated to the general population. The Swedish "Lundby" study is a rare example of a prospective investigation of a "normal" community. It involved interviews at inception, and 15 and 25 years later. Out of approximately 3500 probands, 28 cases of suicide were identified (Hagnell and Rorsman, 1980). There has been no equivalent Canadian investigation.

Retrospective studies of the histories of those who committed suicide have also suggested that the vast majority of suicide victims suffered from some form of emotional disorder at the time of their deaths. To date, two highly regarded studies, one conducted in England (Barraclough et al., 1974), and the other in St. Louis (Robins, 1981), have reported that 7 per cent and 2 per cent respectively of the total 234 suicides were considered not to have had a pre-existing psychiatric diagnosis. However, critics have questioned the validity of such findings, and suggested that a lack of "blindness" might have biased the participating clinicians' retrospective judgements (Sakinofsky and Roberts, 1985b).

Yet the science of epidemiology in isolation from other methodologies cannot by itself provide reliable answers. Epidemiologists study population groups rather than individuals, and findings related to a particular group may not be easily extrapolated to the individual. This pitfall is known by epidemiologists as the "ecological fallacy". The value of ecological studies in epidemiology lies in their power to suggest fruitful hypotheses which must then be tested on cohorts or in case-control samples. Researchers have proposed a combined epidemiological and case study approach in suicide research in which these two methods serve to cross-check one another (Sainsbury, 1972; Susser, 1973). In this connection, Susser has established criteria applicable to those epidemiological studies which search for causal explanations.

Sainsbury has challenged criticisms of the accuracy of suicide statistics such as those advanced by Douglas (1967) and others. For example, an estimated error of 22 per cent in ascertaining cases of suicide has been demonstrated (Holding and Barraclough, 1977). Sainsbury (1983) argues that there exists a net error of 16 per cent in ascertaining deaths from cancer of the lung, yet the conclusions drawn from official cancer statistics are never seriously questioned. Researchers agree that although local attitudes may indeed influence the absolute accuracy of recording cases of suicide, such systematic biases do not invalidate regional comparisons (Sainsbury and Jenkins, 1982; Sainsbury, 1983). Furthermore, when death certificates have been cross-checked in regions such as Ireland, where suicide is suspected to be under-reported, the findings confirm a relatively low incidence of suicide (McCarthy and Walsh, 1975). Similarly, a Canadian study has reported that the low incidence of suicide in Newfoundland was largely accounted for by the lower than average rates of suicide in particular age-groups (Liberakis and Hoenig, 1978). Malla and Hoenig (1979) subsequently showed that, in contrast to other provinces, suicide in Newfoundland and Labrador had indeed not increased over the decade 1964-73 and that it followed a stable pattern of low suicide rates which were unaffected by the "new high-risk groups" (such as young people) evident in more urbanized societies. Scrutinizing death certificates for 1974-78 which listed no causes of death, they confirmed that the suicide rate in Newfoundland was less than half the national rate, even after allowing for under-reported suicides (Malla and Hoenig, 1983).

2. The Prevalence of Suicide

(i) International Comparisons of Suicide Rates

Table 1* provides a comparison of suicide rates in the European region of the World Health Organization with that of Canada. Overall suicide rates per hundred thousand of the population per annum ranged from a low of 2.9 in Greece to a high of 44.9 in Hungary. With the caveat that the years represented are not identical, Canada's suicide rate of 15.1 in 1983 clearly ranks in the upper 50 per cent of the countries listed, and well above the median of 10.0 per hundred thousand. A study of the pattern of Canadian and U.S. suicide rates over the period 1968-83 has shown that Canada's overtook and then consistently exceeded that of its southern neighbor (Figure 1).

(ii) Suicide in Canada

(a) Potential Years of Life Lost

The impact of suicide on the nation can be viewed in terms of the number of expected years of life lost up to age 70 which suicide victims might have enjoyed. Using the method of Doughty (1951), and taking the years 1963-76 as their baseline, Peters and Termansen (1982) have calculated a total of more than 2,000,000 years of life were lost by Canadians committing suicide (Table 2). Furthermore, in relation to other major causes of death, a Toronto study has demonstrated that suicide exceeded all other causes of potential years of life lost in females and was second only to myocardial infarction in males (Figure 2) (Elinson et al., 1983).

(b) Suicide Compared with Deaths from Other Medical Causes

Comparisons of death rates for suicide per annum for all ages and sexes with deaths from selected major diseases and accidental deaths have shown that suicide is less common than cardiovascular and respiratory diseases, malignancies, and accidents, but is more common than deaths resulting from kidney or liver disease, or diabetes mellitus (Table 3). As a proportion of all deaths, suicide has been steadily increasing since 1925 with the exception of a temporary decline coinciding with the Second World War (Figure 3). This increase has been noted to be especially steep since the advent of the sixties (Peters and Termansen, 1982).

(c) Parasuicide (attempted suicide) and Suicide

Since there are inherent problems with reporting attempted suicide (parasuicide), data have not been systematically collected in Canada with the exception of the London, Ontario, self-injury studies (Ferrence and

* The tables and figures referred to in this section appear at the end of the section. General statistics on suicide rates in Canada and the Provinces are located in Appendix 11.

Johnson, 1974; Whitehead et al., 1973a; Whitehead et al., 1973b). In their studies the incidence of parasuicide ranges from 730 to 1433 per hundred thousand. Attempts have been made to estimate the ratio of parasuicide to suicide as well as the percentage of all deaths accounted for by suicide at different age levels (Tables 4 and 5). Both sexes were shown to be at the highest risk for parasuicide between the ages of 15 and 44, with the female rate being twice that of males. On the other hand, suicide was found to be most prevalent in males over 34 years of age and in females 35-64 years of age, with the male suicide rate being considerably higher. In addition, suicide accounted for approximately one in seven deaths from all causes for both sexes under age 35.

(d) Suicide by Ten-year Age Groups, 1924-83

Figures 4 to 11 present a longitudinal view of the fluctuations in the annual suicide rates for Canada over a period of sixty years, 1924-1983, for decennial age groups. They have been prepared from tables of crude suicide rates obtained from Statistics Canada. In the 10-19-year age group, for both sexes, suicide rates were similar and low up to the 1940s, when male rates began to exceed female rates consistently; the discrepancy widened even further after the mid-1960s. Male suicide rates have steadily increased from 1.1 in 1924 to a maximum of 13.1 per hundred thousand in 1983, whereas female rates appear to be levelling off at 2.1 per hundred thousand (in 1924 the rate was 0.2). In contrast to older age groups, there was no discernible dip during the Second World War, nor the hump of an increase coinciding with the economic depression of the thirties (Figure 4).

In the 20-29-year age group the high ratio of male suicides to female suicide was apparent from 1924. The rise in suicide rates during the mid-1930s was also more marked among males. This may be related to the role of males in this age group as primary breadwinners. There was a clear dip for suicide rates in both sexes coinciding with the war years, followed by a resumption of the previous pattern after 1945. In comparison to rates for the 10-19-year age group, there has been a steep increase in male suicide rates since the mid-1950s. This increase has accelerated particularly since the mid-1960s, culminating in a rate of 33.9 in 1983, three times that in males aged 10-19. For females aged 20-29 there was a smaller rise in rates, which, as with the previous age group, appeared to level off during the eighties; in 1983 it was 6.4 per hundred thousand, three times that of the rate in females 10 years younger (Figure 5).

It is noteworthy that there was a hump-shaped increase in male suicide rates in 1924 with peaks in the late 1920s, in the 20-29-year age group, and particularly in age groups 30-39 through to 60-69. This increase was due presumably to the Great Depression, as well as to social changes following the First World War. The fact that the peak coincided with the beginning rather than the end of the economic depression may suggest that there was eventual adaptation to it, and that its initial impact might have been most traumatic.

In the 30-39-year age group, male suicide rates began at 10.5 per hundred thousand in 1924 and peaked at 22.2 in 1930, continuing at high levels until 1940 when a decline commenced, coinciding with the war years. In 1960 the climb was resumed, reaching rates in the high twenties during the 1980s. As in the 20-29 year age group, there was a smaller increase for the female sex, levelling off in the 1980s to a rate of 9.5, a significant increase over the rate in females 10 years younger. There was no significant increase in female suicide rates in any of the decennial age groups during the post-World War One years, which were also the years of the economic depression (Figure 6).

In the 40-49-year age group, the suicide rate for males began at 15.3 in 1924, peaked at 31.7 in 1979 and reached 29.8 in 1983. An even higher level, 31.6 per hundred thousand, was reached in 1930, but this was not as high as the peak which males of older age groups experienced during the latter 1920s and early thirties (Figure 7). For the 50-59-year age group (Figure 8) the peak year was 1931, with a rate of 39.6, and for the 60-69-year age group (Figure 9) the peak was in 1932 with a rate of 40.5. It is possible that the economic hardships of that period had a greater impact on those Canadian males who had reached late middle age and early senior citizenship. Again, females in these age groups appear to have been spared. Throughout the decennial groups, there was a decline during the years of World War II for both sexes. The overall increase in male suicides beginning in the 1960s became shallower in the 50-59-year age group and negligible in the 60-69-year age group. However, in the post-70-year age group, the increase reappeared quite steeply in 1980-83 for males, and a shallow upward slope beginning in the mid-1960s was evident for females (Figure 10).

A comprehensive view of suicide rates in Canadians of all ages for the period 1924-83 illustrates the main features of the previous graphs, beginning with the hump-shaped rise in male suicide in 1924 to a peak of 24.2 in 1931, and a decline thereafter, particularly during the years of the Second World War, reaching its nadir of 13.8 in 1945. The suicide rate in males stabilized in a plateau during the period from 1946 to 1964, after which it began to climb steadily, reaching a maximum of 28.8 in 1983. On the other hand, suicide in females of all ages is illustrated by an almost horizontal line indicating much lower rates (approximately 5 to 6 per hundred thousand) until 1965, when it began a gradual rise to a peak of 9.7 in 1973 and then levelled off again. In 1983 it was at a rate of 8.6 per hundred thousand (Figure 11).

An examination of the above data reveals that during the 1920s, the peak for suicide in males was reached after 50 years of age, maximally in the decennium 60-69 years. In the 1970s the suicide rates for males aged 20-29 caught up with the older age groups; in 1983 the suicide rate in this group was higher (33.9) than for any subsequent age group except those past 70 years of age (36.1). For females the scenario was somewhat different; the age period of maximum risk was 40-59, declining thereafter. This pattern has continued into the 1980s, but in recent years the period of greatest risk for suicide has been extended up to 69 years of age.

(e) Methods of Suicide Employed

Table 6 shows the number and percentage of suicides, by method employed, by males and females for the most recent year for which data are available. The most common method employed overall (31.9 per cent) was firearms. In males this method was the cause of close to 40 per cent of suicidal deaths. Females, however, preferred drug overdoses, with approximately a third employing this method. Hanging was employed as a method in about a quarter of the suicides. Gases and vapours (mostly carbon monoxide) were used in a tenth of the suicides.

(f) Ecological Studies of Suicide*

It is clear that the explanation for individual and aggregate suicide is inevitably complex, based on multiple agents acting in a hierarchy of necessary and sufficient causes. Ecological studies produce findings from aggregate analysis which, while suggestive, cannot always be extrapolated to the individual. However, this does not mean that they should be ignored or taken lightly, since in other areas, such as smoking and heart disease, the findings of ecological studies suggesting causal factors have subsequently been supported by cohort and case-control studies of individuals.

Three recent ecological studies of suicide in Canada are worthy of note (Sakinofsky et al., 1975; Sakinofsky and Roberts, 1985a; Jarvis et al., 1982). The first two are cross sectional studies (each made at a single point in time) which have produced results which are mutually corroborative and support the findings of similar studies in other parts of the world (e.g. Sainsbury et al., 1980).

The first cross-sectional study related standardized averaged provincial suicide rates for 1969-73 to approximately 80 demographic, cultural and social variables, such as social and family organization, social mobility, social integration, household structure, and miscellaneous statistics reflecting income, population density, size of the prov-

* We are indebted to Dr. I. Sakinofsky for this section, based on his original analysis of Canadian data.

ince's Native population, type of job and education. (The Yukon and Northwest Territories were omitted because the accuracy of their suicide rates was considered to be distorted by their small population base.) The second study, with 177 variables, attempted to identify the social and cultural factors which could account for the differences in the 1979-81 averaged and standardized suicide rates between the provinces. In both studies, in order to minimize the problems inherent in ecological analysis and in epidemiological research (e.g. Morgenstern, 1982), rather than using correlations, regression of the principle components on the suicide rates was conducted to estimate the magnitude of the desired association. Similarly, in the longitudinal study looking at change across the decade, discriminant function analysis was employed rather than correlation (Sakinofsky and Roberts, 1985b).

Results

Interprovincial Patterns

During 1969-73, a striking interprovincial difference in suicide rates was apparent. A gradient of steady increase in male suicide rates from the east to the west coast emerged, disturbed only by Prince Edward Island and Nova Scotia whose male suicide rates were higher than the next westernmost provinces, New Brunswick and Quebec. By far the lowest rates for males were to be found in Newfoundland, and by far the highest in British Columbia (Figure 12). The lowest male to female suicide ratios, in the order of 2 to 1 were identified in British Columbia and Ontario. However, in the other provinces, females seemed to be more protected against suicide than men and the ratios were in the order of 4 to 1. These relative differences between the provincial rates of suicide and the overall pattern did not alter when other causes of death, which might have given rise to errors in death certification, (accidents and injury undetermined) were added (Figure 13).

Comparing the 1969-71 and 1979-81 suicide rates (i.e. across the intercensal decade), Figure 14 shows a substantial change in this east-west coast pattern with a major shift in increased male suicide rates towards the eastern provinces, particularly in Quebec and New Brunswick. The male suicide rate in Quebec has increased from 14.7 to 23.6, raising it from eighth to third place. Similarly, the male suicide rate in New Brunswick has almost doubled, moving it from ninth to sixth position among the provinces. Newfoundland continues to occupy the tenth place, but even here suicide in the male population increased by almost 50 per cent (from 5.4 to 7.5 per hundred thousand).

In general, suicide in males increased over the ten years in all ten provinces of Canada except for Prince Edward Island. Although the original east-to-west slope had disappeared, rates were still highest in western Canada, led by Saskatchewan and Alberta, followed by Quebec and British Columbia.

Female suicide in the provinces over the decade presented an altogether different picture: suicide rates had actually decreased in half the provinces including British Columbia. However, in Quebec, there was a 50 per cent increase (from 5.1 to 7.4) so that here too, it rose to third place for female suicide in Canada. As in the previous period (i.e. 1969-71), female suicide rates were highest in western Canada, led by Alberta and British Columbia. Saskatchewan followed Quebec in fourth place.

Possible Causes

Conclusions about the causal nature of the factors linked to suicide by the analyses of the 1971 and 1981 census data are tentative because of the question of ecological fallacy (Robinson, 1950). The central problem of the ecological fallacy results from making a causal inference about individual phenomena from observations of groups (Morgenstern, 1982).

The associations found between certain factors and suicide in the above analysis are, however, consistent and fulfil some of the criteria enumerated by Susser (1973) for the attribution of causality in epidemiological studies. The two cross-sectional studies underlined family and social network systems and the longitudinal study emphasized changes in the state of the economy.

The cross-sectional studies showed that low suicide rates in provinces were related to stability of residence, intact families or single parent families, and "companionship". On the other hand, high suicide rates in the provinces were related to the prevalence of non-family households, divorce, alcoholism and couples with no children. Foreign birth coupled with home language other than English or French was also associated with suicide in women. In the 1969-73 study, high unemployment was also linked to low suicide, although this is probably the result of low suicide rates found in the east-coast provinces where high unemployment rates were traditional. Platt (1984) reviewed nine cross-sectional ecological studies and found no relation between suicide and unemployment in them.

The findings of the longitudinal investigation by Sakinofsky and Roberts which related changes in the provincial suicide rates to changes in 122 census items are particularly important, since this method of study can claim a stronger case for a causal connection than analysis at a single timepoint. The analysis included separating the provinces into two groups of five provinces for each sex, according to whether there was a high or low percentage change in suicide rates occurring across the decade. Newfoundland, New Brunswick, Quebec, Saskatchewan and Alberta were the provinces (from east-to-west) which had greater percentage changes in male suicide. The list was identical for female suicide with the exception that Nova Scotia replaced New Brunswick. These provinces will be referred to as the high- or low-suicide provinces for each sex.

Large increases in provincial rates for male as well as female suicide were tied to an increased demand for jobs by a larger proportion of the male population, blocked by relatively increased unemployment, even though slightly more jobs were available. Similarly, changes in female suicide rates were tied also to an unprecedented demand for jobs by women; and even though some of this need was satisfied by increases in the number of jobs available, unemployment for females in 1981 had increased by 85.8 per cent in the provinces with high suicide rates, compared with 47.4 per cent in the low female suicide provinces. This contrasts with a 16 per cent increase in male unemployment in high-suicide provinces over 10.7 per cent in low-suicide provinces.

In addition to the employment-related factors, the increase in male suicide was tied to increases in crimes of rape, the proportion of non-family households and the rates of alcoholism. Low suicide was linked to stability. Besides employment, other determinants of female suicide were a decrease in the neonatal death rate (regarded as a measure of industrialization by the American econometrist Brenner 1973), increased proportions of women in jobs such as those related to technology, and changes in the density of the population.

It is not surprising to find that an increased demand for employment among women should be coupled with greater industrial expansion and with more women in technological jobs. The redefinition of women's roles by society has almost certainly contributed as well. However, it would seem that the ability or willingness of employers to absorb the increased demand for work in higher levels of occupation, from whatever causes, has been exceeded. The changes noted above have been linked to female suicide in the provinces, but it must be remembered that the rise in suicide rates, in females in Canada as a whole, appears to have levelled off (Figure 11), and that between 1969-71 and 1979-81, an increase in female suicide was reported in only four of the provinces (Figure 14).

All of the findings of the longitudinal study suggest that between 1969-71 and 1979-81, there was an increase in economic pressures, combined with diminishing integration into society, and the effects of these influences were more evident in the high suicide provinces. During the decade, the economy of Canada as a whole expanded. Eyer (1977) has remarked how the death rate rises during the business booms; social stress, overwork and fragmentation of community are presumed to be the predominant influences. Rakoff (1983) has also described how rapid economic changes are accompanied by a breakdown in the traditional values fostered by institutions such as the family, the church and political systems, and how this anomie is linked to suicide.

The longitudinal study also demonstrates a greater increase in alcohol and spirits sales (by volume) and of deaths certified

as due to cirrhosis or alcoholic liver disease, and of traffic accidents in the high-male-suicide provinces (Figure 15a). Similar findings except for sales of alcohol were seen in the high-female-suicide provinces (Figure 15b).

The rise in the suicide rates of both sexes in Quebec compels particular attention. Two recent studies from Quebec examine the phenomenon. Cormier and Klerman (1985a and 1985b) analyzed annual changes in the unemployment rates in Quebec and their relationship to suicide rates between 1950-81. Their results showed a positive association during the 1966-81 period but not during the earlier period.

Not only did Cormier and Klerman confirm earlier reports of a positive association between unemployment and male suicide, but also with suicide in females aged between 15 and 44. Their comment that "this original finding may be explained by the increase in the number of females in the labour market in Quebec during the time period investigated" is very similar to the conclusions of Sakinofsky and Roberts (1985b) concerning suicide in all the provinces of Canada.

The inferences from the above aggregate analyses about the imbalance between demand for employment and its availability are supported by investigations in other countries. Studying a one per cent sample of the population of England and Wales over 1971-81 (the same decade studied by Sakinofsky and Roberts, 1985b) Moser et al. (1984) and Moser et al. (1986) showed a two to three times greater risk of suicide in unemployed men as well as a two times greater risk in their respective spouses, daughters and female companions. Platt and Kreitman (1985) showed an association between male unemployment and male parasuicide.

Discussing the situation in Quebec, Cormier and Klerman attributed role changes related to greater secularization and modernism to the "Quiet Revolution" which began in the mid-sixties and induced a "state of anomie". The findings of Sakinofsky and Roberts suggest that these role changes were not, by any means, confined to that province. The "Quiet Revolution" may have permitted change in these social values inside Quebec but they originated outside of that province as manifestations of a widespread change in western society that affected Europe as well as North America. This change in contemporary values and lifestyle was linked to increased suicide in 15 out of 18 countries studied by Sainsbury et al. (1980).

Only one study of the ecology specific to parasuicide has been done in Canada (Jarvis et al., 1982). Multivariate analysis revealed that high-density housing, single-person households, and low socio-economic status were closely related to increased rates of self-injury. Family status and mobility did not emerge as predictors.

(g) Cohort Studies

A cohort analysis of the 4315 deaths by suicide in Alberta between 1951 and 1977 identified five-year cohorts, the first one being those persons who were in the 15-19-year age group in 1951. As each cohort aged, its suicide rate for each subsequent census year was plotted (Solomon and Hellon, 1980; Hellon and Solomon, 1980).

Figure 16 shows male cohort-specific suicide rate per one hundred thousand in Alberta (Solomon and Hellon, 1980). The first cluster follows the 1951 age group through to age 40-44 and shows a progressive increase in the suicide rate for that cohort. In the second cohort, incepted at age 15-19 in 1956 and followed to age 35-39, a progressive increase in the suicide rates was evident. This trend did not, however, continue in the subsequent two cohorts, incepted in 1961 and 1966. There was insufficient follow-up for the subsequent cohorts to make conclusions beyond the 1966 cohort, other than to note the spectacular increase in the suicide rate in the 1971 cohort from age 15-19 to 20-24.

With regard to the female cohorts at lower age levels, there was a progressive increase in the suicide rates for the 1951 through to 1966 cohorts and an apparent levelling off in 1966. As with males, there was a sharp rise between the ages of 15-19 and 20-24 in the 1971 cohort suicide rate (Figure 16).

Based on their findings, Solomon and Hellon concluded that the alarming and recent rise in suicide among young people could be expected to continue as each mini-generation ages. They argued that rates for each successive cohort were higher than for any previous cohort. Figure 16 shows that this statement was true for males up to 25-29 years of age but not for ages 30-34. Figure 17 shows that there was a less consistent pattern for female suicide. For example, suicide in the 15-19-year age group declined in the 1961 and 1966 cohorts but increased in the 1971 and 1976 cohorts. In addition, suicide in the 20-24-year age group had consistently increased whereas in the 25-29-year age group, it had decreased. As with men, female suicide in the 30-34-year age group levelled off by the time the 1956 and 1961 cohorts reached those ages.

Although it is difficult to agree with Solomon and Hellon's assertion that "the trend is clear and consistent", theirs is an important and pioneering study which has already stimulated replicative studies in other countries. Murphy and Wetzel point to similar findings for the United States:

> Not only does each successive birth cohort start with a higher suicide rate, but at each successive five-year interval, it has a higher rate than the preceding cohort had at that age. The regularity of this phenomenon over the past 25 years in the United States implies continually rising suicide rates in these birth cohorts (Murphy and Wetzel, 1980).

In Australia, Goldney and Katsikitis (1983) confirmed the reports of a substantial increase in suicide of young people but, in contrast, did not find that each successive age-wave had a higher rate of suicide than the previous cohort. They argued that it was possible that the introduction of legislation restricting the prescribing of sedatives in Australia influenced their findings, thus suggesting that changing environmental factors more immediately related to the suicide itself (which in Canada may be stricter enforcement of gun-control legislation) could be effective in prevention.

All the studies reviewed above were confined to acts of suicide or parasuicide in Canada. Ramsay and Bagley (1985), however, undertook a survey of a random sample of 679 adult citizens of Calgary in order to explore their attitudes towards suicide as well as their actual suicidal behaviour. Their results showed a greater acceptance of suicide than previously reported elsewhere. In addition, 13 per cent of the sample had made active suicidal plans during their lifetime, and 10 per cent had either attempted suicide or had deliberately harmed themselves.

CONCLUSION

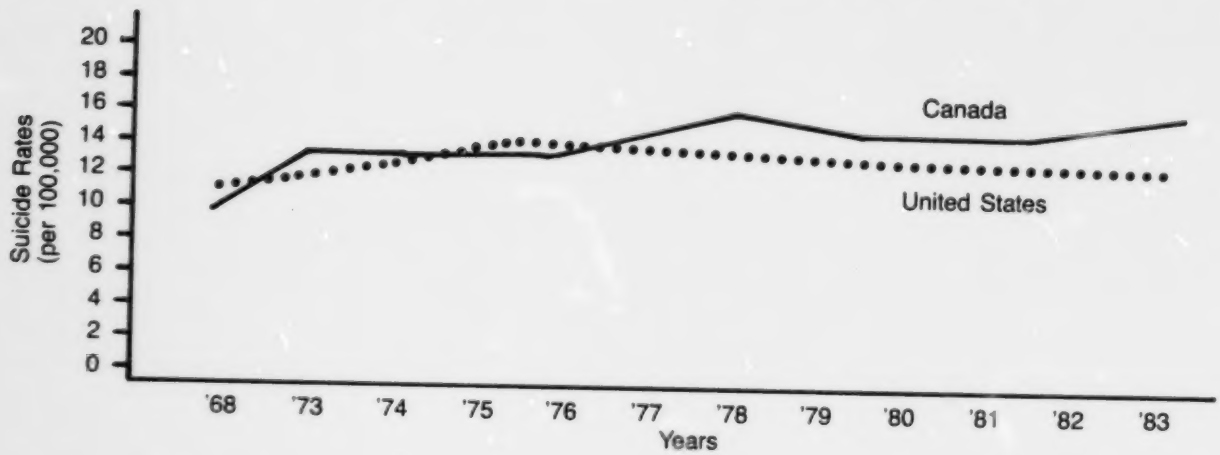
Epidemiological studies of suicide in aggregate groups in Canada tell us that it has been increasing since World War II nationally, particularly in males. Suicide now presents a considerable problem and, while not so prevalent as in some other countries, it nevertheless is a serious cause of death and of loss of potential years of life which might have been enjoyed by the individual, the family, and which might have been useful to the national economy.

The evidence from the Alberta studies suggests that the rising incidence is cumulative. That is, it does not affect people during one particular period of their lives, but that within each successive generation, the increasing risk of suicide is present throughout life. Within age groups, national figures pin-point the increases in young males aged 20-29, but also in those 10-19 years of age.

The causes, as indicated by epidemiological studies, are complex and multifactorial. The inter-provincial studies appear to show that there has been a change in the contemporary fabric of society with lessened self-restraints and lowered morals (anomie). This coincides with a period of expanding economy, greater affluence as a whole, high-technology industrialization and increased unemployment. Certain Eastern provinces such as Quebec and New Brunswick appear to have suffered more than before but the Western provinces continue to face problems with suicide.

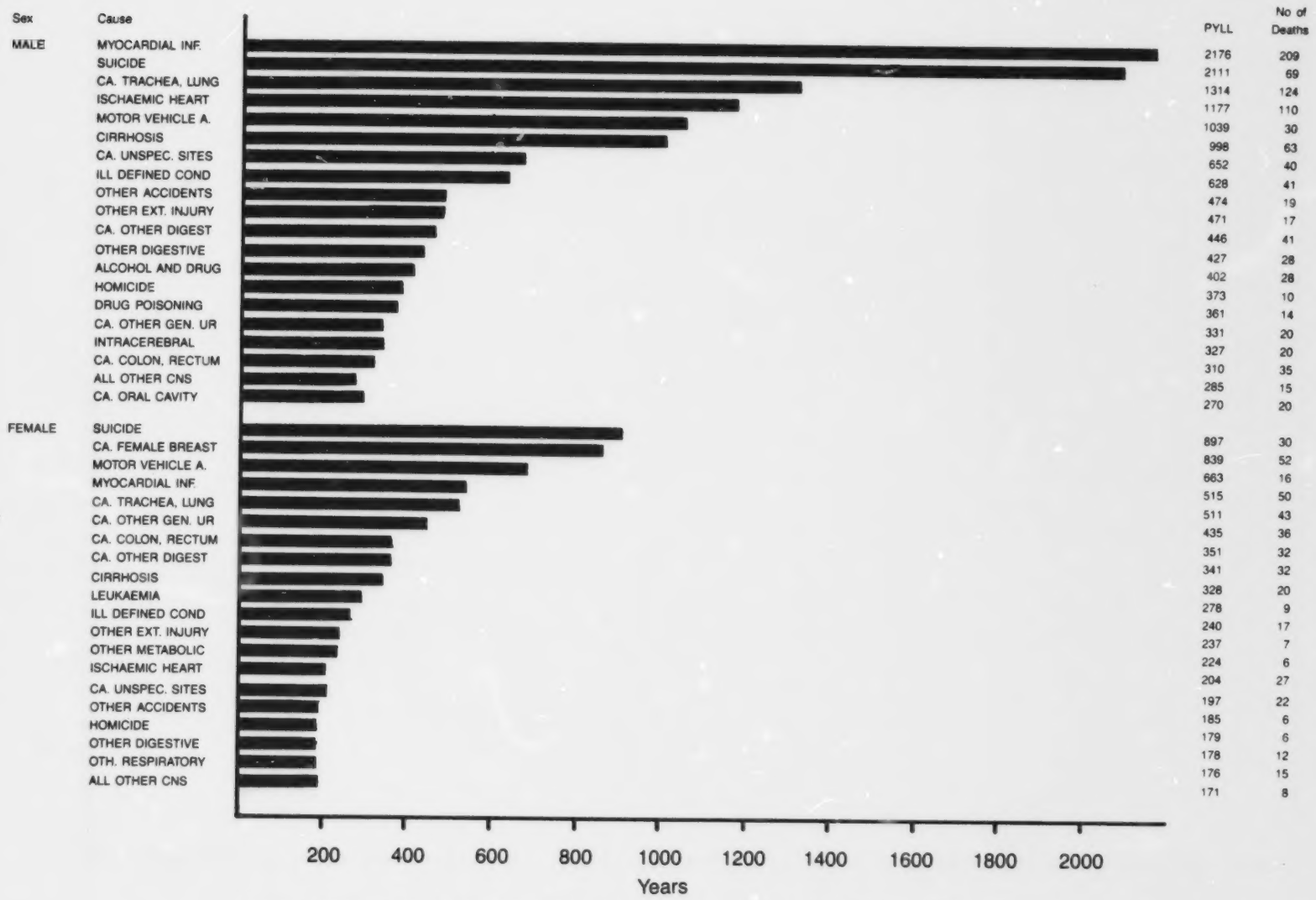
For further information on the epidemiology of suicide in Canada, the reader can consult Bagley and Ramsay (1985) and Dyck et al. (1986).

Figure 1. Comparative Suicide Rates for Canada and the U.S. 1968–83



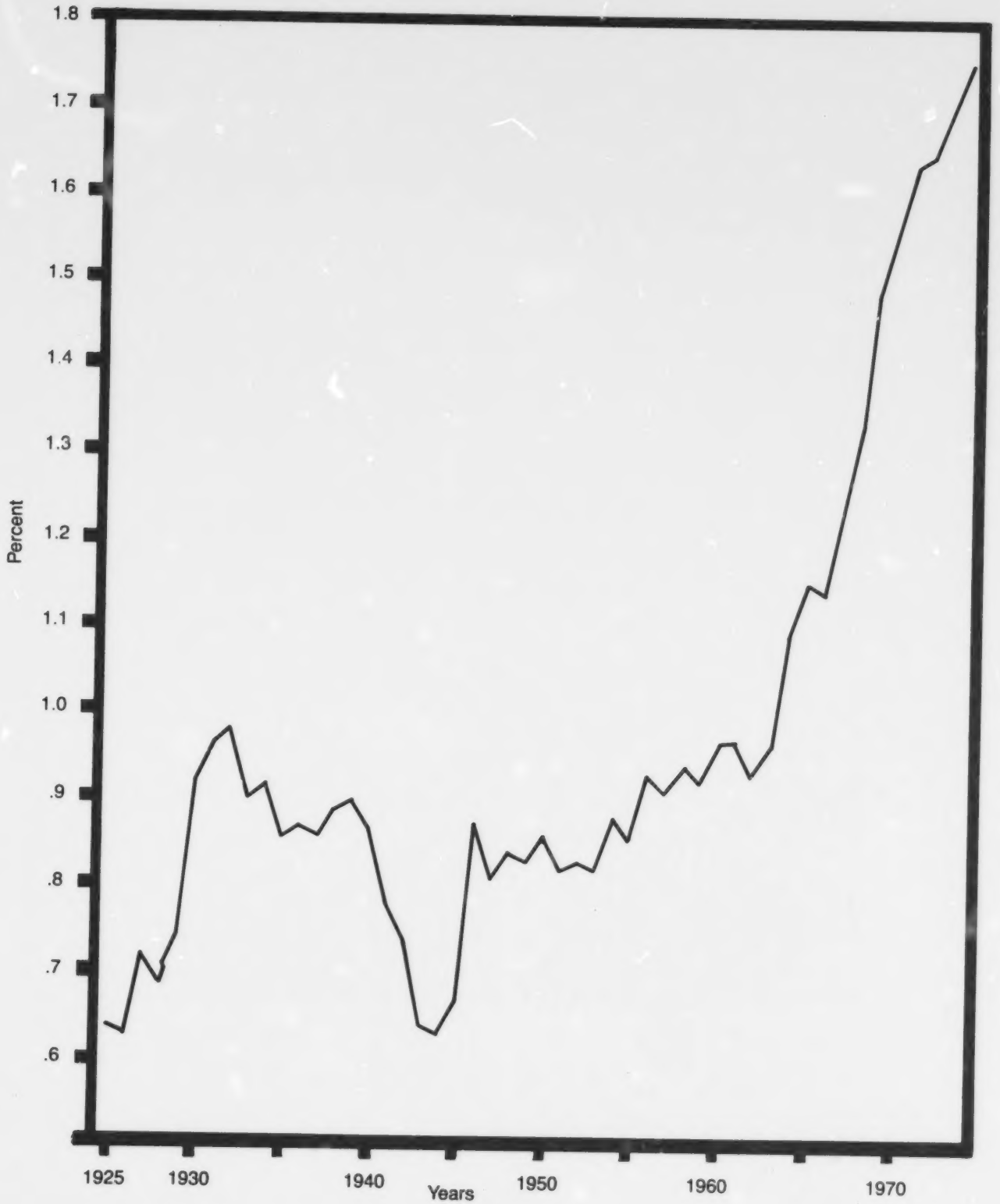
Source: Canadian data from Statistics Canada, Vital Statistics and Health Status Section, Ottawa.
United States data from National Center for Health Statistics. Vital Statistics of the U.S., Vol. 2, Mortality, Part B. U.S. Department of Health, Education and Welfare, Public Health Service, Health Resources Administration, 1984.

Figure 2. Potential Years of Life Lost (PYLL) – Suicide and Medical Causes of Death, by Sex for Toronto Residents[a]



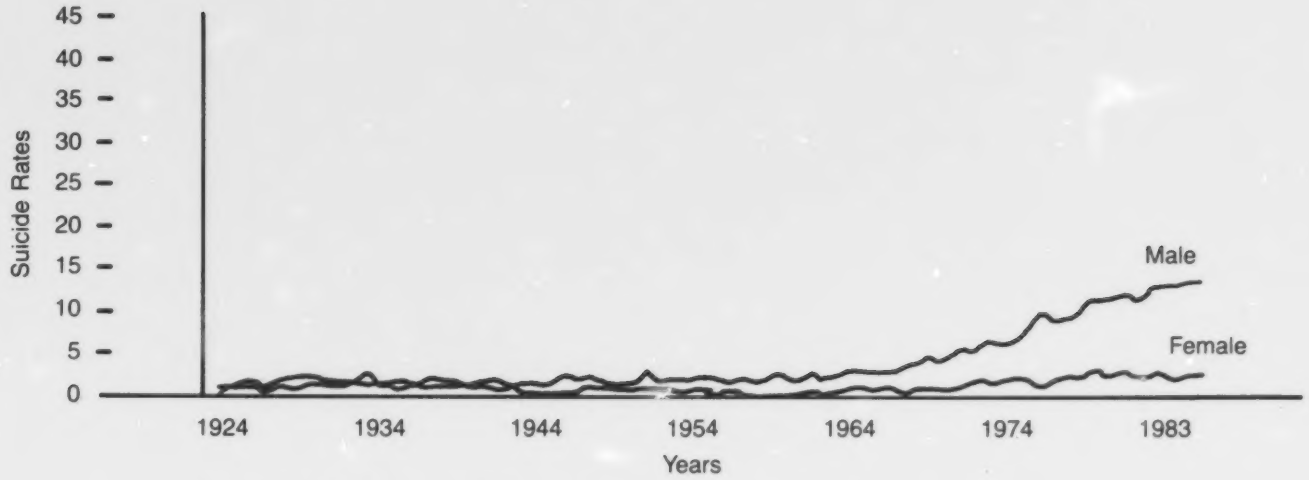
Source: Elinson L., Goettler F. and Kuhl D. Epidemiological characteristics of suicide in the city of Toronto. Canadian Journal of Public Health, 1983. Data based on population between ages of 1 and 70, 1982.

Figure 3. Suicides as a Percentage of All Deaths in Canada



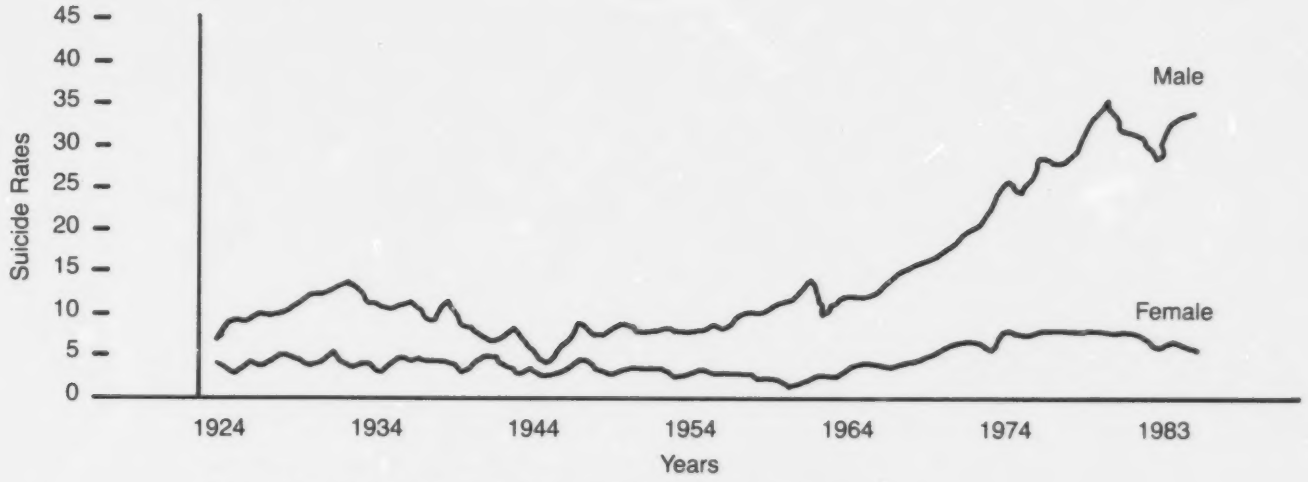
Source: Peters, R. and Termansen, P.E. Trends in the demography of suicide in Canada. Unpublished mimeograph, 1982.

Figure 4. Suicide in Canadians Aged 10–19, Rates per 100,000



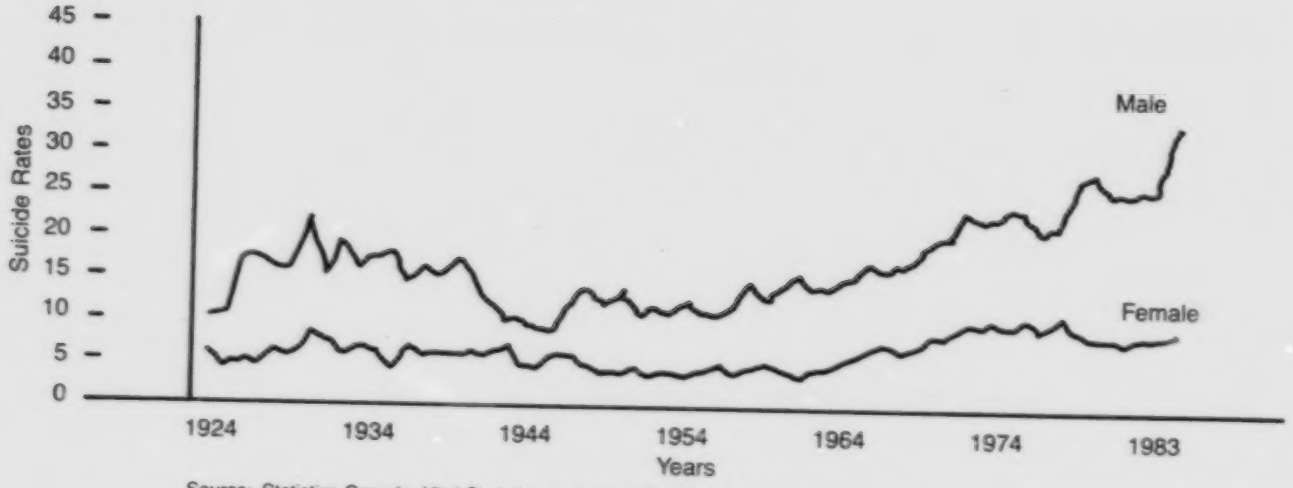
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 5. Suicide in Canadians Aged 20–29, Rates per 100,000



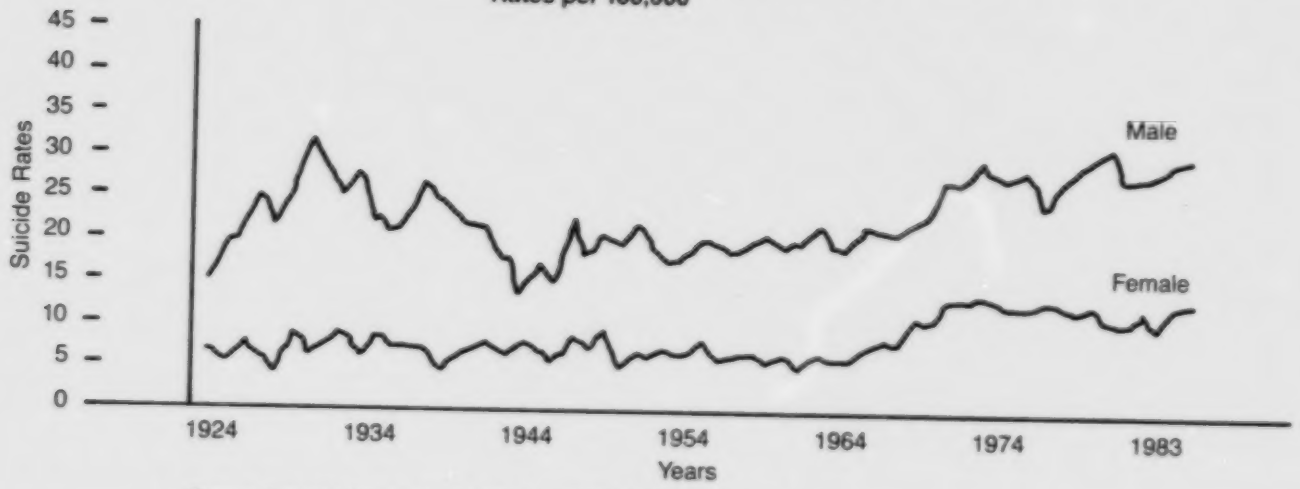
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 6. Suicide in Canadians Aged 30–39, Rates per 100,000



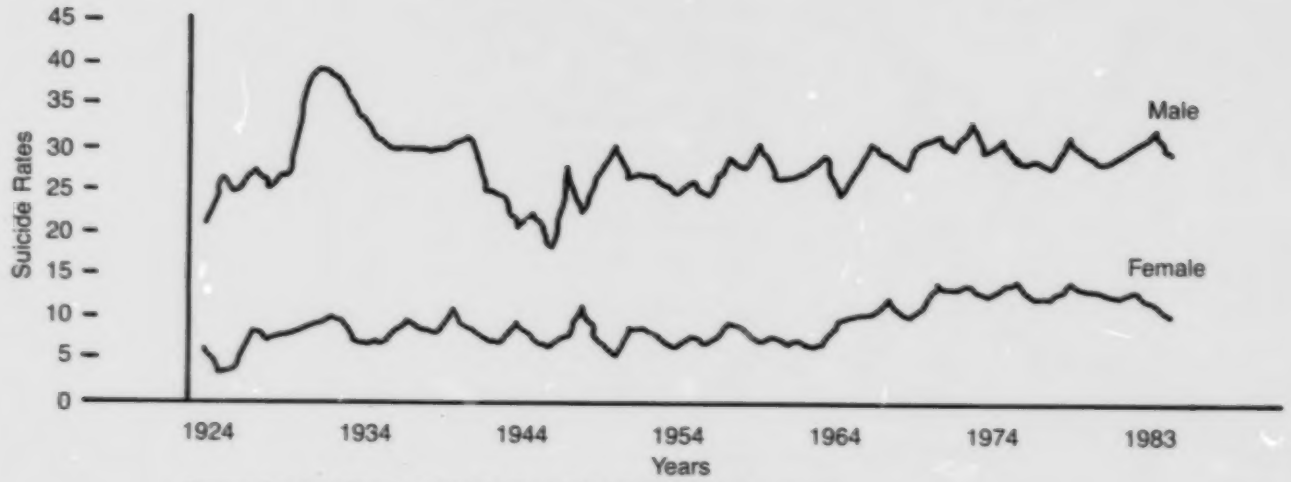
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 7. Suicide in Canadians Aged 40–49, Rates per 100,000



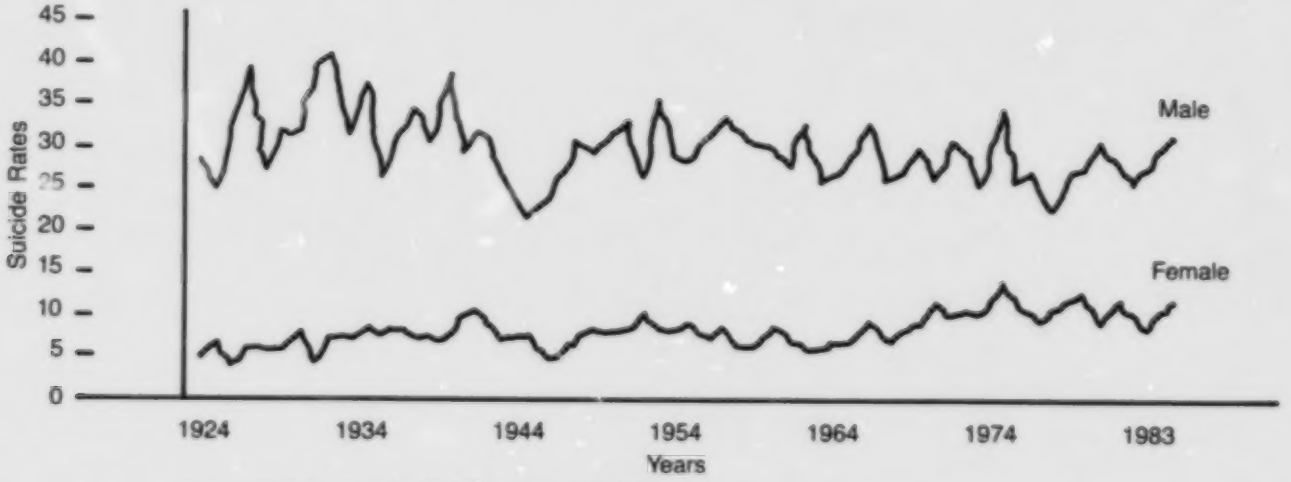
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 8. Suicide in Canadians Aged 50–59, Rates per 100,000



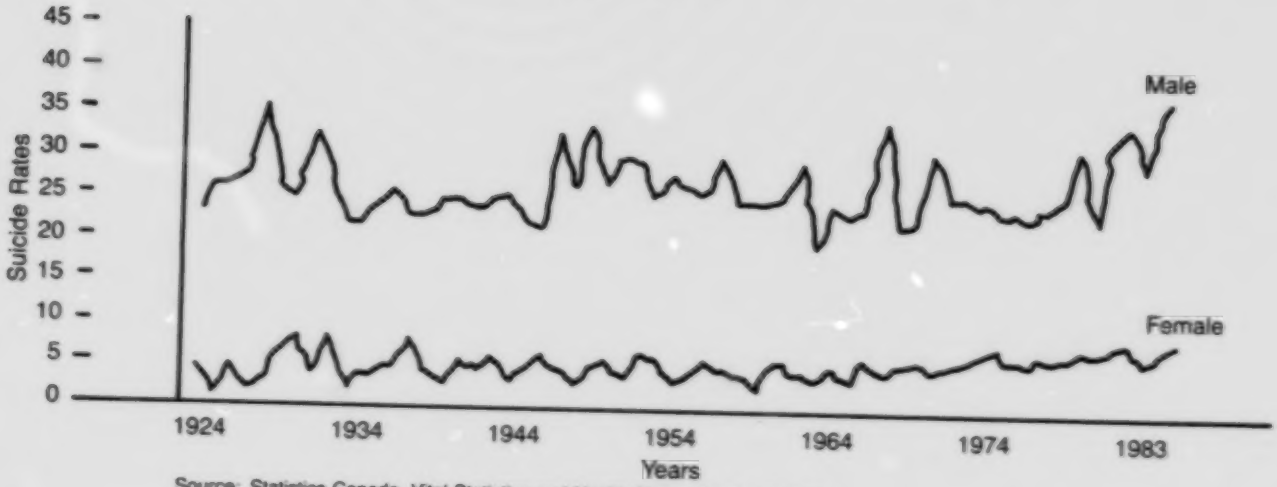
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 9. Suicide in Canadians Aged 60–69, Rates per 100,000



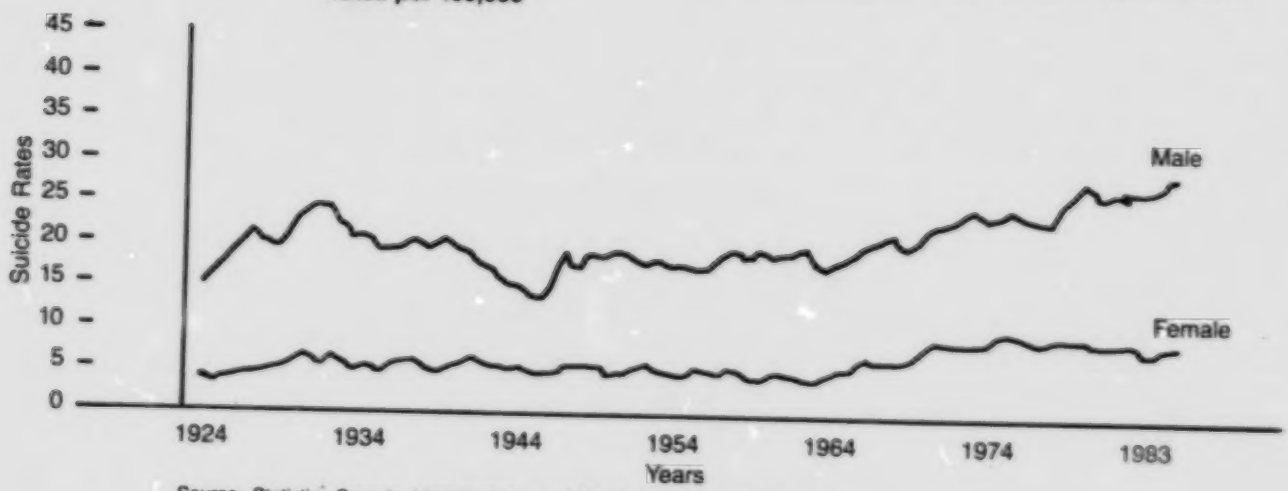
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 10. Suicide in Canadians Aged 70 plus, Rates per 100,000



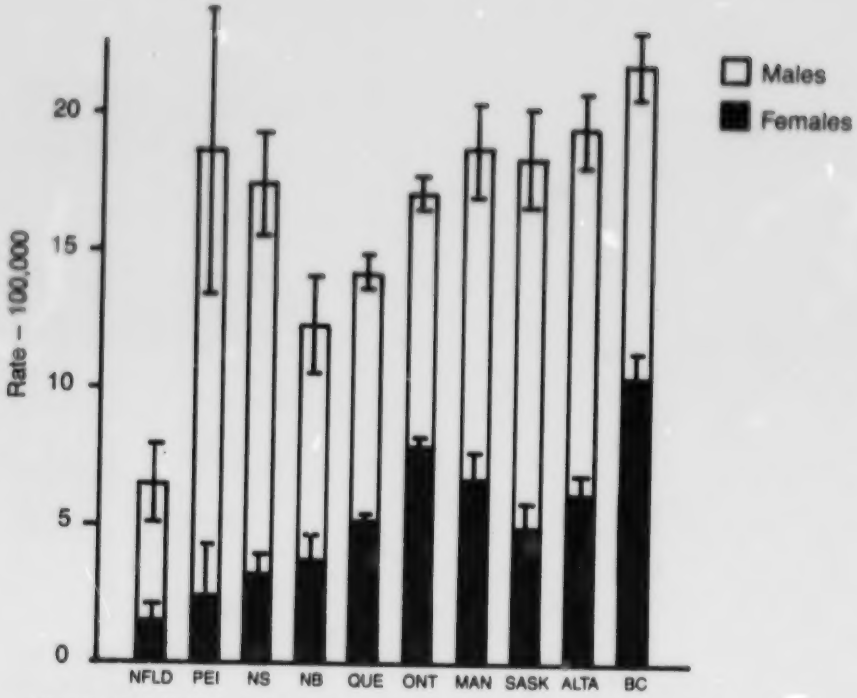
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 11. Suicide Rates for Male and Female Canadian Population 10 Years of Age and Over Rates per 100,000



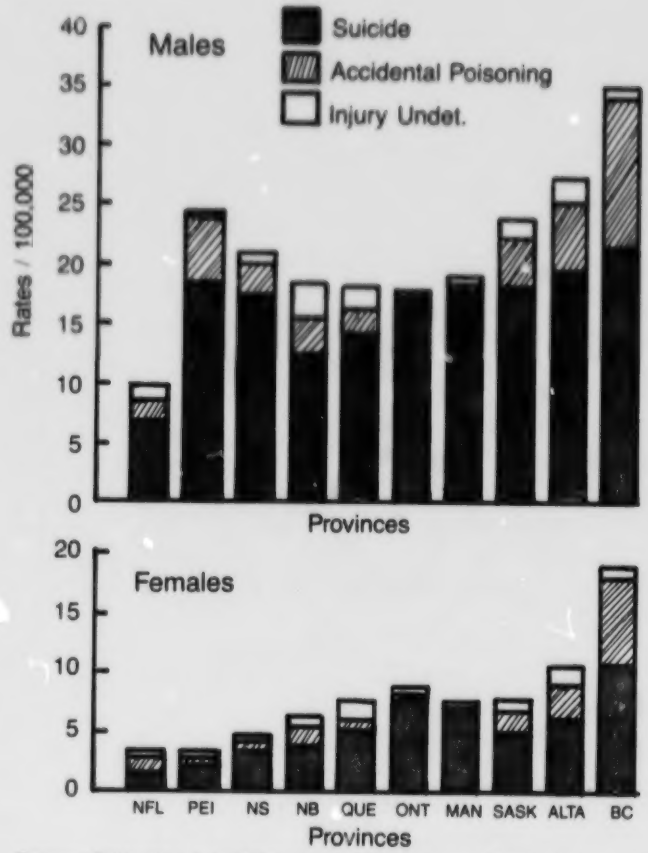
Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Figure 12. Averaged Standardized Suicide Rates by Sex, Provinces of Canada (1969–1973)



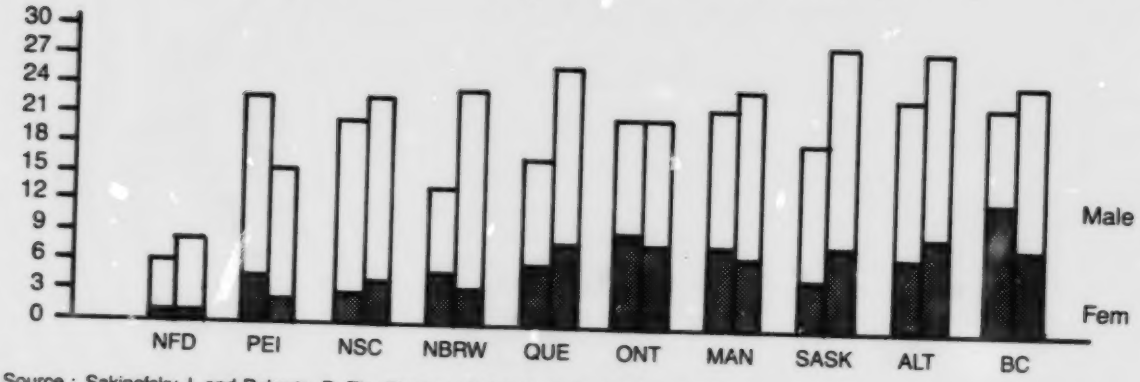
Source : Sakinofsky, I. and Roberts, R. The Ecology of Suicide in the Provinces of Canada. In B. Cooper (Ed.), Psychiatric Epidemiology: Progress and Prospects (provisional title). London: Croom Helm, in press.

Figure 13. Suicide and Other Causes of Death, by Province and Sex. (STD. Ave. Rates 1969–1973)



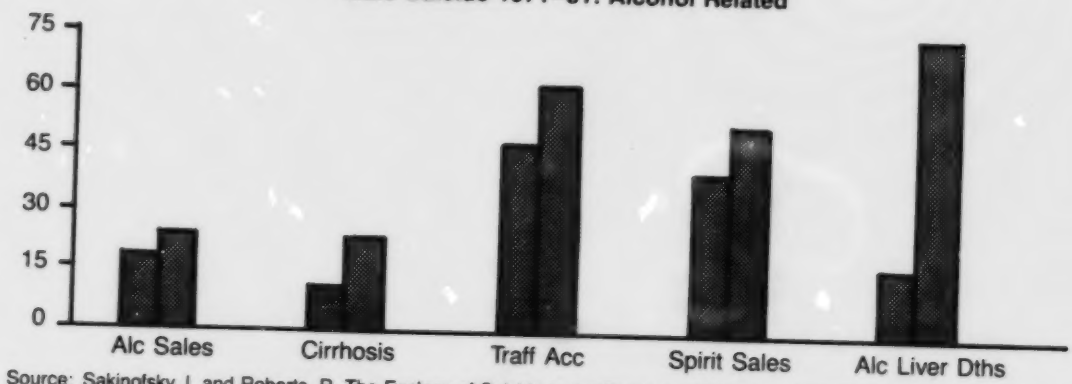
Source: Sakinofsky, I. and Roberts, R. The Ecology of Suicide in the Provinces of Canada. In B. Cooper (Ed.), Psychiatric Epidemiology: Progress and Prospects (provisional title). London: Croom Helm, in press.

Figure 14. Standardized Average Suicide Rates Provinces of Canada (1969–71 and 1979–81)



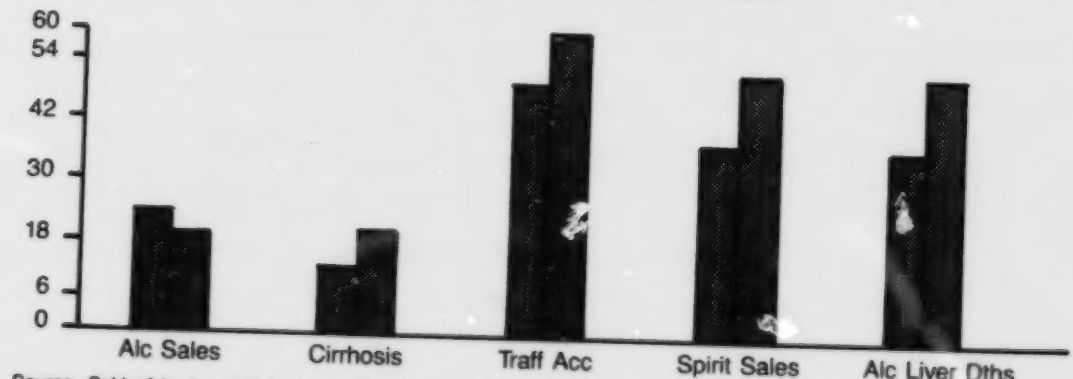
Source : Sakinofsky, I. and Roberts, R. The Ecology of Suicide in the Provinces of Canada. In B. Cooper (Ed.), Psychiatric Epidemiology: Progress and Prospects (provisional title). London: Croom Helm, in press.

Figure 15a. Provinces with Low and High Change in Male Suicide 1971–81: Alcohol Related



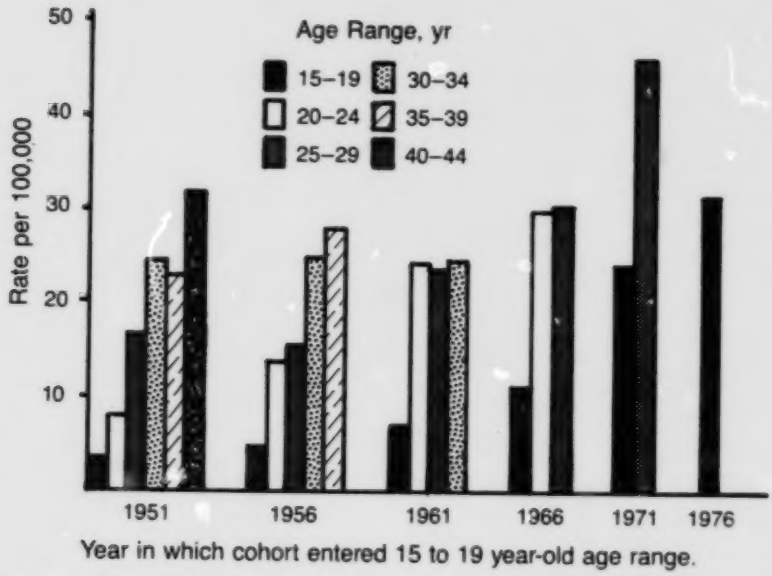
Source: Sakinofsky, I. and Roberts, R. The Ecology of Suicide in the Provinces of Canada. In B. Cooper (Ed.), Psychiatric Epidemiology: Progress and Prospects (provisional title). London: Croom Helm, in press.

Figure 15b. Provinces with Low and High Change in Female Suicide 1971–81: Alcohol Related



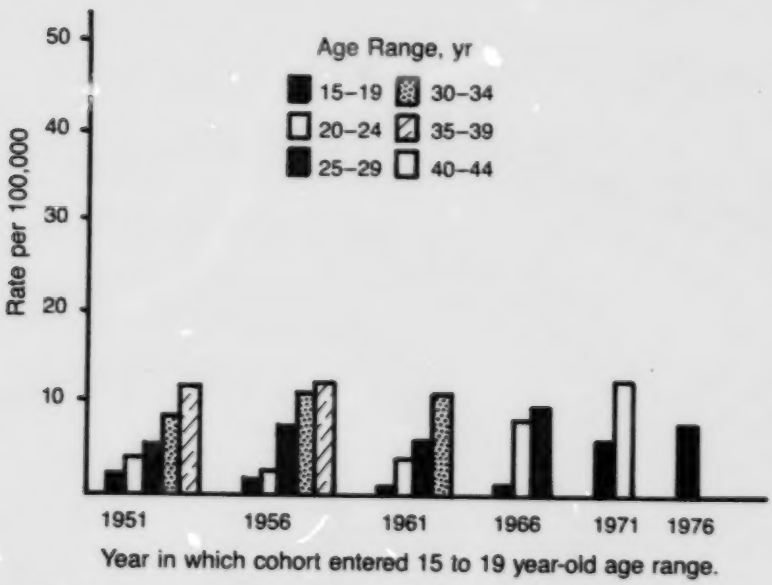
Source: Sakinofsky, I. and Roberts, R. The Ecology of Suicide in the Provinces of Canada. In B. Cooper (Ed.), Psychiatric Epidemiology: Progress and Prospects (provisional title). London: Croom Helm, in press.

Figure 16. Male Cohort – Specific Suicide Rate per 100,000 Population in Alberta, Canada



Source: Solomon, M and Hellon, C.P. Suicide and Age in Alberta, Canada, 1951–77: A cohort analysis. Archives of General Psychiatry, 1980, 37, 5.

Figure 17. Female Cohort – Specific Suicide Rate per 100,000 Population in Alberta, Canada



Source: Solomon, M and Hellon, C.P. Suicide and Age in Alberta, Canada, 1951–77: A cohort analysis. Archives of General Psychiatry, 1980, 37, 5.

Table 1 Deaths from suicide in the European Region of the World Health Organization (latest year available)[a] and Canada[b]

Country	Year	Males		Females		Total	
		No.	Rate per 100,000 population	No.	Rate per 100,000 population	No.	Rate per 100,000 population
Austria	1980	1342	37.8	590	14.9	1932	25.7
Belgium	1977	1201	25.0	673	13.4	1874	19.1
Bulgaria	1980	842	19.1	364	8.2	1206	13.6
Canada[b]	1983	2885	23.4	870	6.9	3755	15.1
Czechoslovakia	1975	2345	32.5	896	11.8	3241	21.9
Denmark	1980	1039	41.1	579	22.3	1618	31.6
Finland	1978	963	43.9	237	9.7	1200	26.2
France	1978	6447	24.7	2711	10.0	9158	17.2
German Federal Republic	1980	8332	28.3	4536	14.1	12868	20.9
Greece	1979	786	4.0	91	1.9	277	2.9
Hungary	1980	3644		1465	26.5	4809	44.9
Iceland	1980	14	12.2	10	8.8	24	10.6
Ireland	1978	106		57	3.5	163	4.9
Italy	1978	2863	9.3	1092	3.8	3657	6.4
Luxemberg	1980	35	19.7	12	6.5	47	12.9
Malta	1977	0	—	0	—	0	—
Netherlands	1980	901	12.8	529	7.4	1430	10.1
Norway	1980	370	18.3	137	6.6	607	12.4
Poland	1979	3766	21.8	732	4.0	4498	12.7
Portugal	1979	701	16.0	251	4.8	952	9.7
Spain	1978	1094	6.1	413	2.2	1507	4.1
Sweden	1980	1137	27.6	473	11.3	1610	19.4
Switzerland	1980	1128	36.7	493	16.2	1621	25.7
United Kingdom							
England & Wales	1980	2629	11.0	1692	6.7	4321	8.8
Northern Ireland	1978	38	5.0	32	4.1	70	4.5
Scotland	1981	339	13.6	177	6.6	516	10.0

Source: a. World Health Organization. Prevention of Suicide (Public Health Papers, No. 35). Geneva, Switzerland: WHO, 1982b.
b. Canadian data from Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Table 2 Estimated number of years of life lost to suicide in Canada (1963 – 1976)

Age group	Total number of suicides	Total life–years lost
10 – 14	214.3	12,429
15 – 19	2,406.7	127,556
20 – 24	5,333.4	256,005
25 – 29	5,704.7	245,303
30 – 34	5,885.7	223,657
35 – 39	7,423.8	244,985
40 – 44	9,297.0	260,316
45 – 49	10,524.6	242,067
50 – 54	11,492.0	206,856
55 – 59	10,817.8	140,631
60 – 64	9,060.9	72,487
65 – 69	7,011.1	21,033
		2,053,325

Source: Peters, R. and Termansen, P.E. Trends in the demography of suicide in Canada. Unpublished document, 1982.

Table 3 Rates per 100,000 for selected causes of death, Canada

Selected causes of death	ICD categories	1982	1983
Cardiovascular	390–459	326.41	317.54
Renal diseases	580–599	8.90	8.38
Malignant neoplasms	140–208	170.35	172.22
Respiratory diseases	460–519	49.68	53.52
Accidental deaths	E800–E949	38.52	39.70
Suicidal deaths	E950–E959	14.30	15.09
Diabetes mellitus	250	12.27	12.39
Cirrhosis of the liver	571	9.70	9.45

Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Table 4 Suicide–parasuicide ratio and suicide as a percentage of all deaths by age (Males)

Age	Suicides per 100,000 Population[a]	Parasuicides per 100,000 Population[b]	Parasuicide to Suicide Ratio	Suicide as a Percentage of All Deaths
Under 15	1.0	25.6	25.6	2.2
15 – 19	9.3	353.5	38.0	10.6
20 – 24	21.8	493.4	22.6	15.6
25 – 34	17.4	307.1	17.6	15.0
35 – 44	26.4	227.4	8.6	9.4
45 – 54	26.1	191.9	7.4	4.0
55 – 64	30.7	113.4	3.7	1.4
65 and over	31.3	70.2	2.2	0.4
Total	18.8	221.8	11.8	2.2

Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.
[a] Mean annual rate of suicide for 1970 for Ontario.
[b] Mean annual rate of parasuicide June 1, 1969 – May 31, 1971.

Table 5 Suicide–parasuicide ratio and suicide as a percentage of all deaths by age (Females)

Age	Suicides per 100,000 Population[a]	Parasuicides per 100,000 Population[b]	Parasuicide to Suicide Ratio	Suicide as a Percentage of All Deaths
Under 15	0.3	91.8	306.0	1.2
15 – 19	3.8	822.9	216.6	5.5
20 – 24	4.1	749.8	182.9	11.2
25 – 34	10.3	679.5	66.0	13.5
35 – 44	13.4	517.2	38.6	7.7
45 – 54	18.4	293.9	16.0	3.7
55 – 64	17.3	220.0	12.7	1.4
65 and over	10.3	41.0	4.0	0.2
Total	8.2	370.1	45.1	1.1

Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.
[a] Mean annual rate of suicide for 1970 for Ontario.
[b] Mean annual rate of parasuicide June 1, 1969 – May 31, 1971.

Table 6 Suicide methods employed by sex, Canada (1983)

Method	Male		Female		Total	
Drug overdoses	245	(8.5%)	302	(34.7%)	547	(14.6%)
Other solid/liquid	37	(1.3%)	25	(2.9%)	62	(1.7%)
Gases and vapours	306	(10.6%)	74	(8.5%)	380	(10.1%)
Hanging, etc.	772	(26.8%)	187	(21.5%)	959	(25.5%)
Firearms	1115	(38.6%)	82	(9.4%)	1197	(31.9%)
Handguns	37	(1.3%)	1	(0.1%)	38	(1.0%)
All other	373	(12.9%)	199	(22.9%)	572	(15.2%)
Total	2885	(100%)	870	(100%)	3755	(100%)

Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

B. AETIOLOGY

1. Background

It is not surprising that the theoretical approaches developed over time for the study and treatment of suicide have been a reflection of broader trends in social attitudes toward suicide and the prevailing treatment regimes for physical and mental disorders. During the 16th and 17th centuries, the general emphasis on the physical basis of mental illness determined the approach to suicide, with spiritual and social influences accorded secondary or contributing status (MacDonald, 1977). Although this perspective remains popular, albeit in more refined form, it has been supplemented by other views which reflect the development and diversification of medical, social and psychological theory.

During the 19th century, two broad categories of theory developed. The first, which might be called the "medico-psychiatric model", evolved from earlier attitudes, and focused on the causal nature of physical and psychological factors, seeing suicide as the manifestation of inherent mental disorder or physical disease (Rosen, 1975). The second model, the "statistical social model", was based on the trend in health and social sciences which placed major emphasis on environmental influences as determinants of mental and physical states. In essence, much of the contemporary debate over suicide reflects the tension which exists between these two "models".

One of the first and most highly regarded studies based on the "statistical-social model" was that of Durkheim (1897/1951).The resulting theory remains a frame of reference for investigations, examining the role of social factors in the causation of suicide. Durkheim studied the relationship between suicide patterns on the one hand, and religious and demographic factors in Europe on the other. He determined that the results supported two hypotheses: that suicide is not common in an integrated society; and that the underlying motivation for suicidal behaviour varies with the changing values of a particular society.

Durkheim went on to identify three types of suicide: egoistic, anomic and altruistic. Egoistic suicide was related to the break-up or disintegration of family or social structures. This type of suicide was viewed as the basis for the higher rate of suicides among Protestants, who were seen as enjoying a less integrated social structure than Jews or Catholics, reflecting the theological emphasis of Protestantism on individual freedom and responsibility. Anomic suicide was related to social adversity and economic hardship, identified as largely responsible for the sharp rise in the suicide rate during periods of economic depression. Altruistic suicide was defined as being motivated by the need of the individual to fulfill a higher purpose. The act of hari kiri in Japan is depicted as an example of this type of suicide. Durkheim's theory rejects the notion that there is a relationship between psychopathic states and suicide, or between suicide and the presence of neuropathic or alcoholic disorders.

At the other end of the spectrum is the contemporary medico-psychiatric model, an approach which derives a scientific explanation for suicidal behaviour from physical or mental conditions. The fundamental tension between these models of suicide has been described as a debate between "free will and determinism" (Atkinson, 1972). It is central to the understanding of these approaches, and to assessing their comparative validity, to examine the evidence which exists to support the contention that social factors on the one hand, or medico-psychiatric influences on the other, are at the base of the phenomenon of suicide.

2. Social Factors

The literature indicates that the social influences deemed most important in determining suicidal behaviour include familial, job-related, ethnic and social disorganization.

(i) Familial

Familial factors include the influence of marital status, family size and other family-related variables. Current Canadian research investigating the effect of marital status on suicidal behaviour suggests that the highest rate of suicide is among the divorced population, with the lowest rate among the married (not controlling for sex). This is supported by an American study which compared marital status in groups of individuals who completed suicide, attempted suicide and died natural deaths (Maris, 1981).

However, controlling for sex, while there remains a strong positive correlation between divorce and suicide for both sexes, a positive correlation between marriage and suicide has been demonstrated for females only (Sakinofsky and Roberts, 1985a). This may support Durkheim's proposition that marriage acts more as a protection against suicide for males than for females (Durkheim, 1897/1951).

There has been an increase in suicide rates since 1970 for both single men and women, with a greater increase among single men. However, although the suicide rate for singles remains higher than for those who are married, it is considerably lower than the rate for the divorced and widowed (Eastwood, 1981).

Other studies examining familial factors influencing suicidal behaviour have shown that large family size is inversely correlated with suicide, whereas childlessness is correlated positively with suicide (Brown, 1980; Sakinofsky and Roberts, 1985a). In addition, single-parent status was reported to be negatively linked to suicide, and non-family households resulted in a positive correlation (Sakinofsky and Roberts, 1985a).

(ii) Job-related

Job-related factors seem to play a greater role in determining suicide in males than in females. In general, Maris found that blocked aspirations were a more common precipitating factor in male suicides, regardless of age. A positive relationship between career difficulties and suicide in males has been demonstrated; a significant number of males experienced considerable career difficulties immediately prior to their suicide. In addition, a comparison of the career patterns of a group of male suicides with those of their fathers showed a downward intragenerational mobility immediately prior to death. Developmental stagnation in the most recent career was found to be more prevalent in individuals who committed suicide than in those who died natural deaths (Maris, 1981).

There appears to be considerably more controversy regarding the relationship between career and suicide in females. On the one hand, research points to a positive correlation between the proportion of females registered in the workforce and female suicide (Sakinofsky and Roberts, 1985a); on the other hand, some maintain that women gain affiliative support from their work environment, thereby neutralizing the strain imposed by adopting the dual role of career woman and housewife/mother (Cumming et al., 1978).

Nevertheless, certain factors related to the changing role of women in the work force have been found to be correlated with suicide in females, such as the proportion of females in particular career areas. Sakinofsky argues that this positive finding may be a result of "pressures of actualization in some women, with which they can neither come to terms nor accomplish" (Sakinofsky and Roberts, 1985a).

Studies investigating the effect of unemployment on suicide rates point to conflicting results. All researchers agree that, given the complexity of the relationship, a comprehensive approach which considers all possible confounding variables is required. Some recent studies of the effect of unemployment on suicidal behaviour have reported a higher rate of unemployment among parasuicides and suicides than in the general population, and a higher rate of parasuicide and suicide among the unemployed. Platt explains:

> Individuals with a psychiatric illness or 'personality disorder' may be more vulnerable to suicidal impulses and also more likely to behave in such a way that increases their risk of being dismissed from, or impulsively quitting, their job compared to those who are not psychiatrically ill or personality disordered (Platt, 1984).

The relationship between unemployment and suicide is also supported by the work of Brenner and Mooney, who found that for every 1 per cent increase in the jobless rate, there was a 4 to 5 per cent increase in both

homicides and suicides (Brenner and Mooney, 1981). It is significant to note that these findings reflected an analysis of a population consisting primarily of individuals who were newly, as opposed to chronically, jobless, and thereby frustrated by the unfulfillment of high expectations (e.g. recent university graduates) or by the failure or loss of their businesses. The majority of individuals were in circumstances where the stress of major life disruption drastically affected both the individual and family.

However, Platt (1984) concludes that "Despite the firm evidence of an association between unemployment and suicidal behaviour, the nature of this association remains highly problematic." The Sakinofsky and Roberts (1985a) study described earlier, illustrates the problem of studying the effect of unemployment on provincial suicide rates. Due to confounding variables, the original hypothesis that unemployment is positively correlated with male suicide was not supported by the findings, particularly in the Maritimes. The explanation given was that the Maritimes is characterized by a long-standing cultural acceptance and tolerance of unemployment; the familiar stigma is absent. This variation in social values, accompanied by protective welfare programs, may have resulted in the unexpected phenomenon of very high unemployment and the lowest rate of suicide in the country (Sakinofsky and Roberts, 1985a). A more recent Canadian study, however, reports significant findings which suggest a strong positive link between unemployment and suicide (Sakinofsky and Roberts, 1985b).

(iii) Social Disorganization

Social disorganization, social mobility and social isolation have been shown to be strongly correlated with suicide, particularly in males (Sainsbury, 1955). Social disorganization refers to an environment characterized by undesirable social conditions, crowded living arrangements, low-quality housing, criminality, drug and alcohol abuse, solitary living and transient habits. 'Social isolation' relates to an individual's alienation from social contact, and may be determined by factors such as divorce, childlessness and unemployment. Recent Canadian studies have reported positive correlations between suicide and various social disorganization factors such as transiency, criminality and social mobility (Sakinofsky and Roberts, 1985b). The relationship between social isolation and suicidal behaviour has been investigated through a comparison of social traits in groups of suicides, attempted suicides and natural deaths. The social behaviour of the group of suicides differed significantly from the other groups; they had participated less in formal social organizations and were often friendless. Progressive alienation, beginning with negative interpersonal relations and progressing to a state of total isolation, has been found to be characteristic of suicidal individuals when compared to those who died natural deaths (Maris, 1981).

(iv) Ethnicity

The first examination of ethnicity as a social factor predisposing an individual to suicidal behaviour compared the suicide rates of American immigrants of various ethnic groups with the suicide rates of their countries of origin. In general, the suicide rate for a particular ethnic group was found to resemble the rate found in the country of origin, rather than the general U.S. rate. In other words, immigrants from countries with high suicide rates continued to show a predilection for suicide many years after one might have expected them to acquire the values of their new country (Sainsbury and Barraclough, 1968). Peters and Termansen provide an explanation for this phenomenon:

> What one might call the 'suicide factor', the relative probability of an individual committing suicide ultimately, could be an acquired characteristic which an emigrant takes with him to the country of his adoption, like a slow virus which manifests itself only years later (Peters and Termansen, 1982).

Canadian evidence of a possible ethnic component in suicidal behaviour has been suggested by the correlation between provincial suicide rates and immigration, particularly females of European origin with a mother tongue other than English or French (Sakinofsky and Roberts, 1985a). In addition, the high rate of suicide among Canadian Native peoples, two to three times greater than in the general population, points to ethnicity as being an important factor in the explanation of suicidal behaviour (See Section III, C, 3). Unfortunately, Canadian mortality statistics do not include ethnic origin.

3. Medico-psychiatric Factors

Many theorists maintain that an underlying physical process, subject to environmental influences, may be the most important determinant of suicidal behaviour. Proponents of this view consider the following factors to be significant: physical illness, mental disorder; drug and alcohol abuse; stress; and certain biological conditions.

(i) Physical Illness

The correlation between physical illness and suicide has been described as being of "pivotal importance". One study points to some commonly identified conditions:

> . . . an increased incidence of psychosomatic illness; frequent major surgery before the fatal act; depression related to chronic pain and altered body function and image; fear of death and suffering; fear of cancer and fantasied agony; fear of unremitting pain; and the incapacitation accompanying rheumatoid arthritis, Parkinson's disease, and stroke (Dorpat et al., 1968).

Adam describes the general relationship between physical illness and suicide:

> Any chronic illness which robs the individual of his expectation of a full life, or hypochondriacal preoccupation with illness, which may represent the imagined loss of such fulfilment, are both important factors in suicide, particularly in later life (Adam, 1983b).

A review of the literature examining suicide in the elderly finds considerable support for the importance of physical illness in determining the high rate of suicide in this age group; 35-85 per cent of elderly suicides suffered from physical illness (Shulman, 1978).

Physical illness has also been reported to be correlated with suicidal behaviour in other high-risk populations, such as young people and Native peoples. With regard to young people, studies have found that 10 per cent of Alberta's youth suicides, aged 15-29, involved chronic physical illness (Boldt and Solomon, 1977); and that 51 per cent of adolescent parasuicides suffered from medical problems (Garfinkel et al., 1979). In a study of the suicidal behaviour of Native peoples, 25 per cent of a group of suicides and parasuicides in British Columbia were found to have suffered from a significant physical illness (Termansen and Peters, 1979).

Finally, it should be noted that there are secondary effects of physical illness, especially in the case of painful and/or chronic illness. Of particular relevance here is the development of chronic substance abuse as a means of coping with a prolonged illness, which may ultimately lead to more severe depression, and hence, increased risk to suicide.

(ii) Mental Disorders

Studies have shown that the incidence of mental disorder among individuals who commit suicide varies considerably among countries. The World Health Organization (1982a) identified a range of 20 to 94 per cent; the reported incidence of mental disorders in suicide completers in North America ranges from 50 to 90 per cent (Adam, 1983b).

The theory that mental disorder is a major determinant of suicidal behaviour receives considerable support in extensive studies by Maris. Based on his findings, Maris (1981) concludes: "Individuals who attempt suicide with either a non-fatal or a fatal outcome are more likely to have had a major mental disorder than individuals who die a natural death."

A comparison of suicide completers, attempters and individuals who died natural deaths indicated a higher incidence of psychiatric disorders among suicide completers and suicide attempters, and a greater than 50 per cent incidence of poor mental health prior to the suicide event, compared to a 15 per cent incidence found in those who died natural deaths. In addition, psychiatric hospitalization was found to be more common among suicide attempters (50%) and suicide completers (40%), compared to those who died natural deaths (3%) (Maris, 1981).

Specific mental disorders which were found to be common among suicide completers included neurosis, alcoholism, schizophrenia, major affective disorders and adjustment disorders. It is interesting to note, however, that only 4 per cent of the suicide completers had a history of psychotic depression. Neurosis (e.g. anxiety states and reactive depression), the most common mental disorder, was shown to be present in suicide completers at twice the rate of suicide attempters, and at four times the rate of individuals who died natural deaths. Among general psychiatric patient populations, depressives had the highest suicide rate, while schizophrenics had the greatest absolute prevalence of suicide.

An examination of the degree of depression experienced by these groups demonstrated that suicide completers were more depressed in the two months prior to death than individuals who died natural deaths, but less depressed than suicide attempters. In general, a significant difference in the level of depression between suicide completers and psychiatric patients was not demonstrated. Items on the Beck Depression Inventory that distinguished individuals who committed or attempted suicide from those who died natural deaths included hopelessness, dissatisfaction, the desire to die and loss of interest in other people. Factors distinguishing suicide completers from all other groups included sleep disturbance and preoccupation with physical health. Age and sex did not have a significant differentiating effect on the depression scores of suicide completers and suicide attempters (See also Section III, C,1.).

(iii) Drug and Alcohol Abuse

Over 1,000 of the 3,358 documented suicides in Canada in 1980 were reported to be alcohol related (Working Group on Alcohol Statistics, 1984). The relationship between suicidal behaviour and substance abuse, particularly alcohol, is also well documented in the American literature (Murphy and Robins, 1967; Wekstein, 1979; Solomon and Arnon, 1979).

American studies have reported an alcoholism rate ranging from 8 to 12 per cent among suicides and suicide-attempters, up to twice the rate of the general population (6%) (Maris, 1981). Conditions, such as isolation and severe depression, commonly found among suicides of the elderly, have been reported to have a strong relationship with alcohol dependency. Elderly individuals, who are both severely depressed and isolated, are more likely to become alcoholics than those who are mildly depressed but isolated. Maris explains:

> Older suicide completers drank more if they were both depressed and isolated, but if they were only mildly depressed and yet still isolated, then alcohol consumption was relatively low. That is, depression seems to be the critical factor. We further noted that most alcoholics tend to have interpersonal problems and that the concept of 'negative interaction' is a better predictor of suicidal alcoholism than is mere isolation (Maris, 1981).

However, individuals who attempted suicide were shown to have a higher level of drug use and abuse than individuals who committed suicide. Both suicide completers and suicide attempters were found to use sedatives and tranquillizers on a daily basis more frequently than those who died natural deaths. Actual drug overdoses were much more common among suicide attempters than completers, most frequently involving barbituates, non-barbituate sedatives and phenothiazine derivatives. An overall difference based on sex was apparent, with females more frequently abusing drugs and using drugs and alcohol together, than males (Maris, 1981).

It has also been suggested that alcoholism is a major factor in many subintentional suicides such as cirrhosis of the liver and indirect alcohol-related deaths including car accidents, fires, falls and drownings (Farberow, 1980).

(iv) Stress

Hans Selyé, in his classic "The Stress of Life", has clearly established a strong link between environmental stressors and adaptive physiological (hormonal, biochemical, structural) and psychological (emotional and cognitive) changes in the individual (Selyé, 1956). The prevalence of 'chronic stress', particularly early and deeply felt loss, in the histories of suicidal individuals, has been frequently reported by research (Cochrane and Robertson, 1975; Adam et al., 1978; Goldney and Burvill, 1980; Brown, 1980).

Suicide attempters have been found to experience stressful events at four times the rate of a comparable general population, and to a greater degree than non-suicidal depressives, schizophrenics and non-psychiatric medical patients. When compared to other psychiatric and non-psychiatric patients, in terms of the nature of stressful events, suicide attempters stated more frequently that events which were threatening, undesirable and outside of their control were perceived as being particularly stressful (Paykel et al., 1974).

Based on a detailed review of the histories of white male suicide victims, Maris hypothesizes that, compared to individuals who die natural deaths, individuals who commit suicide experience a greater incidence of accumulated developmental difficulties, and lack the necessary support systems, such as a meaningful career and loving relationship. He concludes that for suicide completers, "life structures tend to be in disarray to the point of collapse" (Maris, 1981).

A direct relationship between cumulative stress and suicidal behaviour in children has been supported by the results of a life-stress inventory, measuring the level of stress experienced by children, aged 5-14, during their developmental periods. The comparison shows that suicidal children experience progressively greater levels of stress throughout their childhood, peaking prior to hospital admission, than do depressed or other mentally ill children. This may be related to the fact that suicidal children more frequently experience both temporary or permanent loss of a parent or grandparent through illness, death or divorce, remarriage of one or both parents, or other psychologically traumatic events (Cohen-Sandler et al., 1982).

(v) Biological Correlates

Investigations into the role of bodily changes in determining an individual's vulnerability to suicide have focused on the following factors: seasonal variation; the menstrual cycle and pregnancy; and neurochemistry, biochemistry and genetics.

(a) Seasonal Variation

The earliest observation of seasonal variation in suicide rates was made by Durkheim, who noted higher rates during the summer, followed by spring, autumn and winter (Durkheim, 1897/1951). Subsequent studies have pointed to seasonal variation in suicide rates, with the highest rate occurring during the spring and early summer (Pokorny, 1968; Dublin, 1963). Seasonal variation in suicide rates in Ontario has been reported, for males only, with higher rates occurring in the summer. This variation in suicide rates has been shown to closely resemble the seasonal variation in hospital admissions for psychotic depression (Eastwood and Peacock, 1976).

(b) The Menstrual Cycle and Pregnancy

Research has provided inconclusive evidence concerning the influence on suicidal behaviour of physiological and psychological changes associated with the menstrual cycle and pregnancy.

Based on a review of physiochemical correlates of suicide, Hankoff reported that "there is insufficient evidence of a significant relationship between either the menstrual cycle or pregnancy and suicidal behaviour" (Hankoff, 1979). In contrast, studies supporting a relationship between the menstrual cycle and suicide have shown that the majority of suicide attempts occur during the bleeding phase of the menstrual cycle, and that most suicides occur during the ovulation phase (Neuringer and Lettieri, 1982). The explanation given for this phenomenon is that the increased vulnerability to suicide of emotionally unstable women may be directly affected by hormonal changes and prevailing negative attitudes to the menstrual cycle. Women frequently perceive menstruation as a time of weakness, helplessness, defenselessness and passivity. A relationship between the menstrual cycle and general parasuicidal behaviour in women has also been reported. More than 60 per cent of women who self-mutilated by slashing did so during the period of menses, and reported a general

negative reaction to the period, "feeling unhappy, disgusted or frightened" (Simpson, 1976).

With regard to the relationship between pregnancy and suicidal behaviour, Neuringer and Lettieri report that:

> Suicidal behaviour is a rare event in pregnant women – ranging from 2 to 5 per cent – which is lower than the incidence of suicide in the general population; this proportion holds for both attempted and successful suicides (Neuringer and Lettieri, 1982).

They argue that the low rate can be attributed to specific hormonal changes and the psychological state of pregnancy. During times of distress, women may see pregnancy as a solution to their problems, while others, despite the level of stress, are reluctant to destroy the life of the fetus.

(c) Neurochemical, Biochemical and Genetic Factors

There has been considerable criticism of research findings concerning the neurochemical, biochemical and genetic correlates of suicide (Hankoff, 1979; Struve, 1979; Lester, 1983; Brown, 1983). Hankoff (1979) argues that the "heterogeneity of the suicidal population" and "the overlap of suicide and depressive illness" are influences which make it difficult to find significant and replicable correlations between suicide and the various neurochemical, pharmacological, electroencephalographic and genetic factors which have been investigated as possibly contributing to suicide. Struve (1979) agrees, stating that "incorporation of these scattered findings into a theoretically meaningful and clinically useful model does not appear to be a realistic possibility at the present time."

Factors which have been identified as contributing to the unreliability of research in this area include limitations in research strategies; scattered and unreliable research findings; and single, non-replicable studies found in the areas of biochemistry, electroencephalography, physiology, neurochemistry (e.g. brain weight, circadian rhythms, lithium concentrations, drug automatism, organicity, adrenal cholesterol, xanthine, monoamine oxidase and 17 hydroxycorticosteroids (17-OHCS)). Lester concludes that based on a survey of recent research findings:

> . . . despite a considerable amount of research on physiological factors in suicidal behaviour, either single non-replicated results or inconsistencies between studies on the same topic, even by the same investigator, are found. It is impossible as yet to pick out any reliable findings from the research reviewed (Lester, 1983).

Hankoff offers further criticism of two popular areas of research: the study of dexamethasone non-suppression (Carrol et al., 1981; Argen, 1983) and low 5HIAA hydroxyindoleacetic acid (Asberg et al., 1976; Argen, 1983). He argues that although findings in these areas offer direction for further study:

> . . . proven . . . biochemical characteristics which distinguish those individuals having the primary affective disorders from the general population are confounding factors. Thus, those suicidal individuals drawn from the pool of depressed patients are apt to reflect the same biological findings as the rest of the group. In terms of research methodology, any findings specific to the suicidal group must be demonstrated to be distinct from those of the associated depressive condition (Hankoff, 1979).

In spite of the general negative results of the review literature to date, it should be noted that there are a significant number of researchers in Canada who feel confident that studies of the neurochemistry, biochemistry and genetics of suicides will someday yield critically important information. Such faith does not seem misplaced in research on schizophrenia and affective disorders and so it would seem in an analoguous situation to be utterly naive to dismiss suicide research of this type simply because the answer sought is not yet forthcoming.

In summary, with regard to making predictions of risk factors, whether social or medico-psychiatric, Brown cautions that they may be misleading:

> Risk factors with a low or moderate specificity such as age, sex, history of previous suicide attempts and widowhood, when applied to an event with a low base-rate, like suicide, will predict very high numbers of 'false positives'. As an example: if bipolar depression is used by itself as the basis for life-time prediction and prevention of suicide, six false positives will be predicted for every true positive. This does not, of course, mean that risk factors are meaningless; only that they must be used with caution (Brown, 1983).

4. Psychodynamics

Although many of the psychodynamic theories found in the literature remain speculative, the basic concepts may contribute to the better understanding and management of depressed and suicidal individuals. The psychodynamic approach acknowledges that the broad range of attitudes towards the meaning of death existing in society determines an equally wide range of underlying motives to commit suicide.

(i) Psychoanalysis

The psychoanalytic view of melancholia has been applied to suicidal depression, seen as an example of melancholia. Bereavement, or loss of a loved one, is considered to be a precipitating cause of melancholia. In the case of suicidal depression, the individual is perceived as turning his rage at the departed loved one against himself (retroflexed rage), resulting in self-hatred, a common trait of depression.

The psychoanalytic view of suicidal depression proposes the following possible motives as underlying suicidal behaviour:

(a) atonement or expiation of guilt;
(b) self-punishment;
(c) fantasies of compensation in an after-life for the deficiencies of this life;
    - rebirth;
    - aggression (e.g. spite, revenge, punishment, retaliatory abandonment);
    - control or "omnipotent mastery" (e.g. in a state of alienation or helplessness, suicide is viewed as the last avenue to exert free choice);
(d) manipulation (e.g. game playing, coercion, appeal, cry for help);
(e) escape from an intolerable situation, pain or panic; and
(f) inability to conceive alternative actions to death.

The psychoanalytic view suggests that there are somewhat different motives underlying parasuicidal, as opposed to suicidal, behaviour:

(a) a wish to be rescued, displayed by an interest in being prevented from killing oneself in order to obtain assurance that someone cares;.
(b) a wish to gamble – using the outcome of suicidal behaviour to test people's love and value for them; or to assert mastery; and
(c) a wish to live and a wish to die – characterized by ambivalence toward the act.

Several experts in the area view suicide as the end-product of a long series of psychic events. Dublin elaborates:

> The suicidal drive in the last analysis is from within the individual, rather than from without. Suicide is the terminal act in a complicated psychic drama, the final response of a person to his own needs, desires, and circumstances. External events may precipitate that act, and in certain circumstances such as mass suicide in the face of persecution, may dictate it. Countless persons faced with what appear to be the same provocations do not commit suicide. The primary impulses which lead to suicide lie hidden in the depths of the individual's personality (Dublin, 1963).

Theorists who support this view have delineated several suicidal personality types or clusters of personality factors which characterize the "at risk individual" (Freud, 1920/1950, 1917/1957; Zilboorg, 1936; Menninger, 1938; Adler, 1958; and Kelly, 1961).

However, it should be noted that theories focusing exclusively on defining the suicidal personality have been no more successful in explaining the phenomenon of

suicide than those focused exclusively on the sociology or the biology of suicide.

(ii) The Multidimensional Approach

Some experts suggest that a multidimensional approach may be taken in arriving at a causal explanation of suicide, one which considers the interplay of several factors. One of the first attempts to apply a multidimensional perspective involved the development of an interactional model based on an equation consisting of a combination of several factors deemed to influence the individual; the equation was designed to predict the probability of suicide.

$$S = f\left(\frac{P/C,\ DEC,\ DIG,\ TS}{Su,\ HFT}\right)$$

Legend:

S = Probability of suicide
P/C = Personalities injured in their sense of competence
DEC = Demands for the exercising of competence
DIG = Demands for interpersonal giving
TS = Tolerance of suicide
Su = Availability of succor
HFT = Degree of hope in the future of the society (Farber, 1968)

The most recent and elaborate, empirically-based interactional model considers the interplay of those personal, social, biological and temporal factors which colour the 'pathways' through life that lead to suicidal death (Maris, 1981).

C. IDENTIFICATION OF "HIGH-RISK" POPULATIONS

The Task Force has identified particular groups within the general Canadian population as being at "high risk" for suicide. The following groups would seem to be particularly predisposed to suicide: those with mental disorders, alcoholics, certain age groups, Native peoples, persons-in-custody and the bereaved. It will be noted that these groups are often afflicted or defined by the factors outlined in the previous section. Research and theory concerning the preponderance of suicide risk in these groups is provided below.

1. Mental Disorders

(i) Mental Disorders, Alcoholism and Suicide

As noted in the chapter on aetiology, research shows that 50-90 per cent of people in North America who commit suicide suffered from some form of diagnosable mental disorder at the time of death (Adam, 1983). It should be noted that there is a lack of Canadian research in this area; data from British and American studies may be extrapolated to the Canadian context.

Various methods of investigation have been employed to determine the significance of the relationship between mental disorder and suicide. These are described in detail in the World Health Organization's monograph (World Health Organization, 1968). In general, the results of these investigations have established that the incidence of suicide is higher among individuals with mental disorders, a group identified by their contact with psychiatric services. Studies of hospitals' in-patients and discharged patients have reported incidence-rates ranging from 18-100 per 100,000 to 50-500 per 100,000; these are considerably higher than the rate found in the general population.

Reports concerning the incidence of mental disorders among individuals who committed suicide, identified through the examination of coroner's records, have yielded rates ranging from 20-100 per cent. Researchers have also attempted to estimate the probability that individuals with specific diagnosable mental disorders will commit suicide, based on the reported statistics found in populations with specific mental disorders; such estimates are then complemented with cross-cultural follow-up studies. For example, it has been estimated that 15 per cent of manic depressives are at risk to suicide.

Research Findings

The high incidence of suicides among psychiatric patients has been demonstrated by an American 30-40-year retrospective-prospective study, The Iowa 500, which compared the incidence of suicide in groups of psychiatric patients hospitalized between 1934 and 1944 with a control group of surgery patients. The results showed an incidence of suicide only in the psychiatric population. No significant difference was found between the groups of psychiatric patients with schizophrenia, depression or mania (Winokur and Tsuang, 1975) (Table 7). These findings were contrary to those of previous research, which reported a significantly higher incidence of suicide among those with affective disorders as compared to schizophrenia. The fact that all psychiatric disorders are now typically treated on an ambulatory basis, with only brief hospitalization, may at least partially explain the parity. In the past, out-patient treatment was used more frequently for those suffering from affective disorders than for schizophrenic patients. As is noted later in this report, out-patients are considered at greater risk to suicide than in-patients.

Taking the converse approach, examination of the prevalence of mental disorder among suicide victims has established a strong relationship between the two phenomena. A British study which involved psychological autopsies, based on interviews with relatives and doctors of suicide victims, reported that 93 per cent of their sample had been diagnosed as having a major mental disorder, having visited a doctor within one year of death; and 48 per cent of the sample visited a doctor within one week of death. Psychotropic drugs had been prescribed to 82 per cent of the sample. In general, the study showed that the majority of suicide completers were mentally ill prior to death, with depression being the most prevalent disorder (70%) and alcoholism being the second most frequent. The fact that 66 per cent of the alcoholics were also found to be clinically depressed emphasizes the frequency of depression in alcoholics, and the coincidence of these conditions makes this group a particularly high-risk population (Barraclough et al., 1974).

It would appear that depression accounts for the major part of the aetiological variance, with alcohol playing an associated or lesser separate role. Sainsbury summarizes the effect of these factors as follows:

> . . . depressives who kill themselves are not atypical symptomatically, genetically, or in terms of treatment experience, but are different to nonsuicidal depressives in that they have exhibited more previous parasuicide and a greater length of illness prior to death. Risk of suicide also increases directly with age, both for manic-depressives and alcoholics; social isolation is conspicuous among the depressives, while divorce and widowhood, unemployment, and public drunkenness are common among the alcoholics (Sainsbury, 1978).

Another British study found that half of the alcoholics who committed suicide had been clinically depressed, and that, in terms of treatment, genetic factors, and the number of previous suicide attempts, they did not differ from depressed suicide completers. These results indicate that, while depression itself may lead to suicide, some people, particularly males, attempt to "self-medicate" with alcohol en route (Moss and Bereiford-Davies, 1967).

Several studies have reported a high incidence of clinical depression in young suicidal individuals, aged 5 to 14 years (Garfinkel et al., 1979; Shaffer, 1974; Cohen-Sandler et al., 1982). A depressive syndrome characterized "by aggression readily expressed both inwardly and outwardly" was found to be present in 65 per cent of suicidal children (Cohen-Sander et al., 1982). Other mental disorders such as drug addiction and schizophrenia, have also been related to a high risk to suicide among the young, particularly if there is a predisposition to impulsivity (Sainsbury and Barraclough, 1968). A Toronto study of suicide audits of discharged psychiatric patients reported an overrepresentation of young schizophrenics and personality disorders involved in impulsive and violent deaths, a manner of death not common in depressives (Eastwood and Peacock, 1976).

At the other end of the age spectrum, studies of elderly suicides have found rates of clinical depression averaging 90 per cent (Sakinofsky, 1976a; Shulman, 1978). Adam comments on this group:

> Organic brain disease is a common finding in elderly people in whom the awareness of failing intellectual capacities may trigger a severe depressive response. Furthermore, the deficits in intellectual and cognitive functioning may serve to interfere with normal behavioural controls (Adam, 1983b).

Table 7 Incidence of suicide in psychiatric and control patients

Diagnoses	n	(%) suicides	Suicides as a Percentage of All Deaths
Schizophrenia	170	4.1	10.1
Mania	76	5.3	8.5
Depression	182	7.7	10.6
Controls	n/a	0	0

Source: Winokur, G. and Tsuang, E. The Iowa 500: Suicide in mania, depression and schizophrenia. American Journal of Psychiatry, 1975, 132, 650-651.

It has also been suggested that in addition to impulsive personalities, cyclothymic and dysthymic personalities may be predisposed to suicide (Sainsbury and Barraclough, 1968). It should be noted, however, that studying suicides by means of psychological autopsy and hearsay is not conducive to the reliable identification of the specific personality traits of individuals who commit suicide. This task is considerably easier in the case of parasuicidal individuals.

(ii) Parasuicide and Mental Disorder

There is conflicting evidence regarding the incidence of mental disorders among suicide attempters or parasuicidal patients. Some studies have found a high incidence of mental disorder in parasuicidal patients. A comparative study of groups of parasuicidal patients, suicide completers and individuals who died natural deaths reported that only 14 per cent of the parasuicidal group were free of mental disorder, compared to 21 per cent of suicide completers and 75 per cent of individuals who died natural deaths. The most common mental disorders found in parasuicidal patients were neurosis, personality disorder, alcoholism and transient situational disorder. A greater history of psychiatric hospitalization was also found in the parasuicidal group. Results based on the Beck Depression Inventory showed that the parasuicidal group had significantly higher scores on some items, distinguishing them from the other two groups. These items included: sadness, failure, guilt, deserving of punishment, self-disgust, self-blame, irritability, difficulty in making decisions, frequent crying and feeling unattractive (Maris, 1981).

However, other research has found a low incidence of formal mental disorders among parasuicidal individuals, as low as 25 per cent (Kessel, 1965).

The majority of research on parasuicidal behaviour has focused on the personality traits of suicidal individuals and the role of specific personality disorders in suicidal behaviour. The study of the personality traits of parasuicidal individuals provides the only powerful opportunity to develop a personality profile of the suicidal individual, which can then be of assistance in the identification of high-risk individuals. Nevertheless, research to date suggests that there does not exist a single comprehensive personality profile that can accurately depict the parasuicidal individual (Philip, 1970a). Even so, certain characteristics have been shown to be more prevalent among parasuicidal patients than other psychiatric patients or normal individuals: anxiety, introversion, hostility, lack of conscientiousness, lower intelligence, impulsivity and neuroticism (Philip, 1970b; Vinoda, 1966; Eastwood et al., 1972). Philip remarks:

> In a population characterized by impulsiveness, unpredictability and emotional immaturity, those with a past history of attempts at suicide stand out as the most impulsive, unpredictable and most immature (Philip, 1970b).

It may be concluded that despite some contrary findings, the prevalence of mental disorder appears to be higher for parasuicidal patients than for other non-suicidal psychiatric patients or normal individuals (Maris, 1981).

(iii) Alcoholism

In 1980, 17,974 deaths in Canada were reported to be alcohol related: 2,854 of these were deaths resulting from falls, fires, drownings, homicides and suicides; 2,700 were road fatalities and 2,110 were deaths resulting from alcohol-related cirrhosis, alcohol dependency syndrome, non-dependent abuse of alcohol, alcohol psychosis and accidental poisoning by alcohol. It has been suggested that the reluctance to identify a death as suicide, combined with inconsistencies in certification procedures, may hide an even higher proportion of suicides related to alcohol (Figure 18).

The widely accepted research findings relating alcoholism to violent causes of death, which include accidents (de Lint & Levinson, 1975; Pearson, 1957; Schmidt and de Lint, 1970), homicide, (Goodwin, 1973; El-Guebaly and Lee, 1977) and suicide (Robins, 1981; Dorpat et al., 1968; Barraclough et al., 1974), have led to the formulation of specific hypotheses concerning the dynamics of the alcohol-related suicide and homicide. On the one hand, this process is seen as reducing normal inhibitions to destructive feelings, and in times of stress, impairing judgement to the point where non-destructive alternatives are not perceived. On the other hand, alcohol is also seen as being used by individuals to "find the courage" necessary to follow through with the intention of committing suicide or homicide. Chronic alcoholism is also considered to be in and of itself self-destructive, and frequently considered a form of a slow suicide, or "suicide by inches".

Among the most frequently reported features of suicidal behaviour are a sense of isolation, helplessness, hopelessness and low self-esteem. Such feelings are also common to the experience of alcoholics; they often alienate the "significant others" in their lives, feel helplessly caught in the stranglehold of physical dependency, and after frequent treatment failures or experiences of "falling off the wagon", are pessimistic about conditions ever improving. In addition, they may label themselves as "losers", or as individuals of little value or worth, and those around them may join in this condemnation. Isolation and depression are also considered to be critical factors (Maris, 1981), as is early parental loss (Koller and Castanos, 1968). Moss and Beresford-Davies elaborate on the relationship between alcoholism and suicide:

> The social and personal complications in the lives of suicidal alcoholics were conspicuous: their divorce rate was 17 times the expected figure and in excess of non-alcoholic suicides; . . . half of them had lost their jobs; and a third had been prosecuted for drunkenness . . . . Marital and social problems are therefore a feature of alcoholics who end their own lives (Moss and Beresford-Davies, 1967).

Alcoholism has been found to be a significant factor in explaining suicide rates for males and females in Canada (Sakinofsky and Roberts, 1985a). The relationship between alcoholism and suicide appears stronger for males than females (e.g. Koller and Castanos, 1968; Rushing, 1969), and suicide is more frequent among "early-stage" alcoholics than those in the later stages of the disease (Sundby, 1967; Solomon, 1982; Maris, 1981).

However, while several studies have investigated the relationship between alcoholism and suicide, the precise nature of the relationship remains a matter of considerable debate. The literature suggests that there are three conflicting views:

(a) alcoholism is a cause of suicide (Rushing, 1969; Tamerin and Mendelson, 1969; Mayfield and Montgomery, 1972; Frankel et al., 1976; Murphy et al., 1979);

(b) alcoholism is a form of suicide (Menninger, 1938; Meerlo, 1968; Rybach, 1971; Morrison and Pendery, 1974; Sexias et al., 1975; Maris, 1981), and

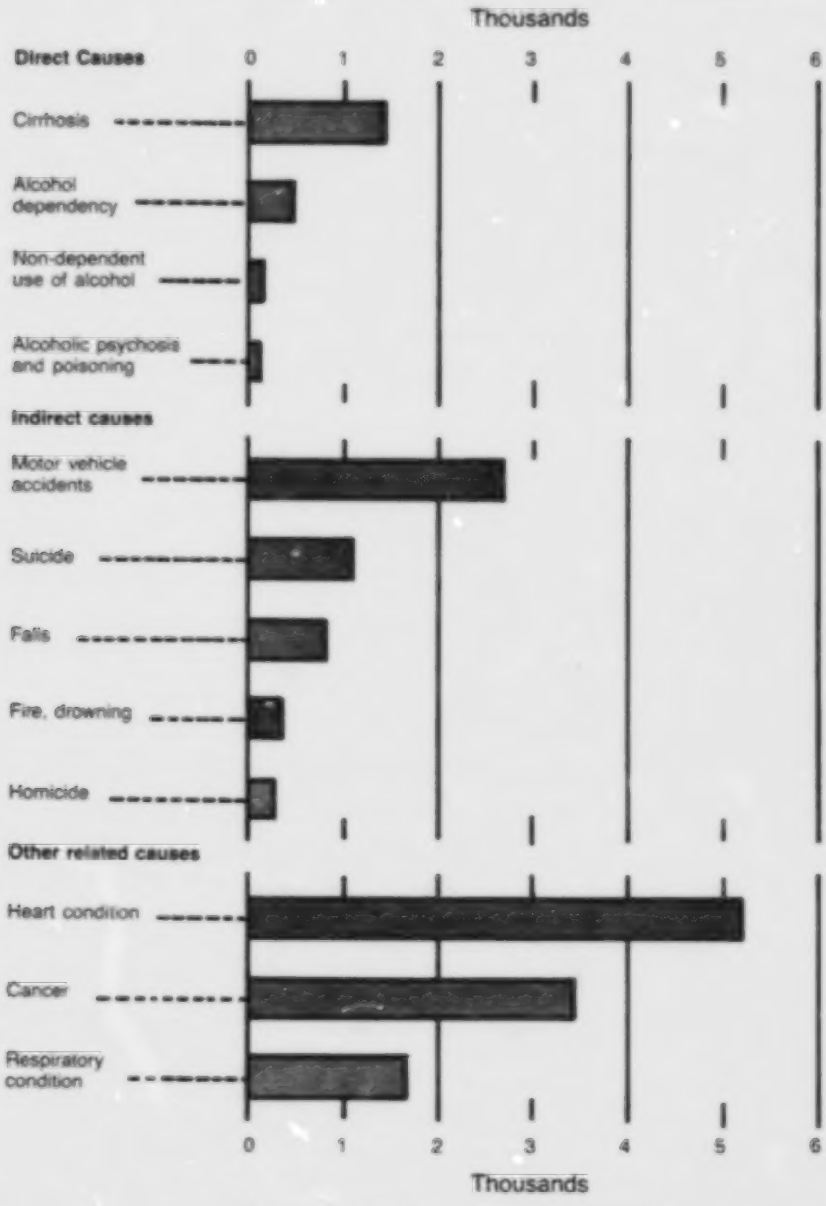
(c) alcoholism and suicide are manifestations of a single cause (Chafetz, 1967; Murphy and Robins, 1967; Murphy et al., 1979; Maris, 1981).

Two sets of procedures have been adopted to investigate the role of alcoholism in suicidal behaviour. One method seeks to determine the incidence of suicide in groups of alcoholics. The latest study employing this method reported that 10-40 per cent of alcoholics commit suicide (Kendell, 1983). Previous studies report a range of 7-40 per cent incidence of suicide among alcoholics (Kessel and Grossman, 1961; Schmidt and de Lint, 1972; Goodwin, 1973; Maris, 1981).

A second research method involves determining the patterns of alcohol consumption among individuals who attempt suicide and those who commit suicide. In general, a steadily increasing incidence of alcoholism, approaching 30 per cent, has been noted among individuals who commit suicide (Solomon, 1982). Previous studies reported a 25 per cent incidence of alcoholism among suicide completers, and, over the period 1825-1964, an incidence ranging from 6 to 47 per cent (Goodwin, 1973).

Some researchers have proposed that alcoholism is as common, and may indeed be more prevalent, among individuals who attempt suicide than those who commit suicide

Figure 18. Estimated Alcohol-Related Deaths, Canada, 1990



Source: Statistics Canada, Vital Statistics and Health Statistics Section, Ottawa.

(Maris, 1981; Goodwin, 1973; Frankel et al., 1976; Solomon, 1982). A study conducted in London, Ontario (Johnson *et* al., 1975) found that 44 per cent of parasuicidal individuals reported drinking before the suicide attempt, and 28 per cent had reported heavy drinking (6 or more drinks on one occasion). More importantly, 94 per cent of regular drinkers, as opposed to 33 per cent of non-regular drinkers, had consumed alcohol prior to the suicide attempt.

A study by Palola et al. addressed the issue of whether "suicidal preoccupation preceded alcoholism, or vice versa." They compared the patterns of drinking and suicidal behaviours in a sample of active skid row alcoholics with a sample of members of Alcoholics Anonymous who were no longer drinking. They reported that "the predominant pattern in this combined sample of alcoholics was one in which suicidal preoccupations, either in the form of thoughts or attempts, preceded the loss of control over drinking behaviour, a cardinal sign of alcoholism" (Palola et al., 1962).

(iv) Conclusion

It is generally accepted that pre-existing mental disorders and alcoholism are important determinants of suicide. However, this does not imply sole causation. Although research shows that only a small proportion of suicide victims have been free of psychiatric disorder, reports also point to a large percentage of individuals with mental disorders who do not commit suicide. Mental disorder should be considered as only one factor, albeit a significant one, with many other influences such as social, psychodynamic, developmental and constitutional factors acting in an interactive fashion.

2. Age-related Factors

(i) Young People

Suicides constitute approximately 15 per cent of all fatalities in the 10 to 19 year age group (Statistics Canada, 1983). Although the largest number of suicides occur in males aged 20 to 24, the number of suicides among young people has increased dramatically over the past 20 years; this can be primarily attributed to the increase in suicide among males in the 15-19-year age group. In 1983, the incidence of male suicides in this age group was five times greater than in 1965. Among females it was 2.5 times greater.

Mental health professionals have expressed concern over these increasing rates. Garfinkel comments: "Suicide among children and adolescents is clearly an escalating social and psychiatric phenomenon" (Garfinkel et al., 1979). There is some indication, however, that the sharp increase in adolescent suicide reached its peak in 1979 (n = 308) and has since begun to level off (in 1980, n = 278; in 1981, n = 293; in 1983, n = [illegible]).

The incidence of suicide in the 10-14-year age group has also increased significantly over the past 20 years, reaching a peak in 1981 and declining in 1983. The male suicide rate remains higher than the rate for females. It is important to note that while the suicide rates in young people, particularly in the 15-19-year age group, have been consistently lower than other age groups up to 1981, they show the greatest degree of increase over the past several years.

(a) Reporting

Several explanations have been offered to account for the apparent increase in adolescent suicides, suggesting that the reported rates may be somewhat misleading. First, the rapid growth in the number of young people reaching adolescence since the mid-1960s suggests that the increase in suicide rates is much less than the increase in the actual number of suicides.

Second, researchers have noted a general increase in the reporting of adolescent suicides. It is speculated that the high degree of under-reporting of adolescent suicides in the past was a consequence of the widely held opinion that adolescents were not able to comprehend or appreciate the reality of death, and that suicide was, therefore, unlikely (Boldt and Solomon, 1977; Peters and Termansen, 1982). More recently, there is evidence that changing social attitudes towards suicide have resulted in "authorities being more ready to construe ambiguous child deaths as suicide" (Bagley, 1982). Hence, the apparent increase in adolescent suicides may reflect this more accurate reporting.

Third, improved medico-legal methods for the detection of suicidal intent have uncovered an "untapped reservoir, a former group of officially unrecognized teenage suicides," which has resulted in an increase in the number of certifications in this age group (Elgin, 1983). Current speculation is that the rate of adolescent suicide has not increased so much as the rate of under-reporting has decreased.

(b) Sex differences

There is a significantly higher incidence of suicide in males compared to females in the 15-19-year age group, a ratio of 6 to 1. This is greater than the male/female suicide ratio in the 10-14 year age group. This disparity has been consistent over the years across all provinces, being particularly pronounced in Quebec, Ontario and the Territories (Table 8). However, the male/female parasuicide ratio has been reported to be the reverse, yielding a ratio of 3 to 1 (Garfinkel and Golombek, 1982; Eastwood, 1981).

Specialists have identified several variables, many of which point to a more troubling adolescent period for males. There may be greater societal pressures on males, such as early demands for strength and independence. In addition, the reported negative attitude of health care workers to suicidal behaviour in males, as opposed to females, may discourage males from acknowledging feelings of powerlessness, anger or desperation, and may also inhibit them from seeking help (Syer-Solursh, 1977). These factors may create a situation where the adolescent male is reluctant to seek or accept assistance, forcing him to cope with problems unassisted, until he has reached a potentially dangerous stage. This situation may also lead to the choice of highly lethal methods designed to ensure success in the attempt. The choice of highly lethal methods by males compared to females has been demonstrated by an Alberta study which reported that the majority of males who committed suicide employed firearms (59.8%), with females more frequently ingesting poisonous substances (41.4%) (Hellon and Solomon, 1980).

(c) Methods of Suicide

The over-representation of highly lethal methods used by young people should be treated with caution in view of a certification process which tends to report youth suicides only in those cases where suicidal intent is clear. Hanging and strangulation are reported to be the most common means of suicide in the 5-14-year age group. One study makes the following observation:

> For a young child to succeed in committing suicide, such adjuncts as secrecy, privacy and opportunity must be available. Furthermore, the child must be able to plan deliberately and effectively. Moreover, some degree of skill and coordination is necessary to the fulfillment of many suicidal plans. For example, hanging requires some technical sophistication – the place must be carefully selected and premature discovery prevented. Self-electrocution and drowning require comparatively elaborate and well thought-out plans. Most people ask whether children's suicides are not always done on impulse, and it is important to note that among child suicides studied, few completed deaths were clearly impulsive. In fact in most cases, there is evidence of prior planning" (Hutton et al., 1977).

Indeed there may be a greater degree of 'intentionality', or at least planning, in suicides by young children compared to adults.

Experts agree that the examination of suicidal behaviour in young children should reflect a clear recognition of the specific developmental age of the child. A definition of suicidal behaviour should be based on clear-cut, age-dependent criteria for self-destructive acts, intentionality, and a child's concept of death and suicide. No such definition exists at the present time.

Table 8 A comparison of provincial/territorial suicide rates by sex: 1970 and 1983

		Male	Female	Total
Newfoundland	1983	10.33	2.09	6.23
	1970	8.70	.80	4.80
Prince Edward Island	1983	19.51	6.40	12.90
	197[illegible]	21.70	.00	10.90
Nova Scotia	198[illegible]	21.20	3.22	12.10
	1970	16.40	2.60	9.50
New Brunswick	1983	24.24	4.21	14.15
	1970	8.30	3.50	5.40
Quebec	1983	28.74	8.63	18.52
	1970	13.30	4.60	9.00
Ontario	1983	19.58	6.47	12.92
	1970	16.00	8.20	12.10
Manitoba	1983	26.16	5.65	15.76
	1970	19.80	5.90	12.80
Saskatchewan	1983	24.54	5.25	14.91
	1970	18.20	4.80	11.60
Alberta	1983	25.17	7.91	16.72
	1970	20.00	6.40	13.30
British Columbia	1983	22.31	7.32	14.77
	1970	22.20	9.60	16.00
Yukon	1983	59.83	9.43	35.87
	1970	104.70	54.10	81.30
N.W. Territories	1983	70.87	13.10	43.48
	1970	16.90	.00	9.10

Source: Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

In general, parasuicidal young people have been shown to use less lethal methods of self-injury than youths who successfully completed suicide. The results of an extensive Toronto study of parasuicide cases (n = 506) indicated that the majority of cases involved overdoses of drugs (88.2%) followed by lacerations (5.9%), lacerations and drugs (1.5%) and other means (4.4%). The most common drugs used were aspirin (33%), valium (25%), aspirin derivatives (16.3%) and barbituates (8.3%) (Garfinkel and Golombek, 1977).

(d) Contributing Factors

Young people demonstrating a high risk to suicide continue to be at high risk over their lifetime. If not overcome, stress, depression and other negative events in childhood pose an equal danger in later life (Solomon and Hellon, 1980). It is important, therefore, to identify the contributing factors to suicide at this earlier stage.

Research points to several factors which have been found to contribute to a state of isolation, helplessness, hopelessness, depression and subsequent suicidal behaviour in the young (Cosand et al., 1982; Trautman, 1984; Stengel, 1965; Davis, 1983; Garfinkel, 1979). These factors include:

- psychological problems;
- physical illness;
- poor socialization skills;
- poor communication skills;
- low self-esteem;
- academic problems;
- unemployment;
- multiple problems/stressors;
- limited resources;
- unhappy home life; and
- multiple losses (especially parental loss at an early age).

A combination of these factors may lead to a higher than average level of emotional disturbance in the already emotionally vulnerable adolescent.

Several Canadian studies have identified many causes and factors contributing to suicidal behaviour in young people. Based on the study of youth suicides in Alberta, aged 15-19, Solomon and Boldt (1977) have separated these contributing factors into two categories: predisposing and precipitating factors. Predisposing factors were those conditions which developed over time, setting the stage for suicide. The following are such conditions, ordered according to their frequency: history of mental disorder, drug and alcohol problems and chronic physical conditions. The prevalence of drug and alcohol abuse in youths who committed suicide was significant; 27 per cent of the males and 31 per cent of the females were reported to have a drug problem. Alcohol abuse was found to be less prevalent, and almost exclusively a problem with males.

Precipitating factors were defined as the triggering mechanisms of suicide. In order of their influence, the following were identified: mental health crisis, perceived failures and loss/bereavement.

An interesting finding of this study was that a majority of suicide completers were found to be living with their families at the time of their death, and that a high proportion were not "societal misfits". The study also identified specific "pre-death events" present in 90 per cent of cases; these could be interpreted as warnings of the impending suicide. For example, suicide rates were found to be much higher for individuals with a history of suicide attempts, even though the frequency of attempts was generally low. The significant aspect of this type of 'pre-death event' was that most previous attempts occurred within one year of the suicide, and that more males committed suicide within one week of the previous attempt than females. Direct or oblique threats of suicide were also found to be common "pre-death events" (Boldt and Solomon, 1977).

Other 'warning signs' of suicide have been identified by research:

- sudden or precipitant alienation from parents in the absence of other emotionally supportive human relationships;
- real or imaginary rejection by a peer (of either sex) whose relationship has been highly valued;
- a significant failure (usually either athletic or academic) involving "public" exposure; and
- major family disruption or dissolution (usually involving the parental marriage), especially if the young person implicates himself as a reason for that disruption.

These precipitating factors have been found to be more powerful triggers of suicide if the following conditions are present:

- a long-standing history of the use of maladaptive coping mechanisms in the adolescent (for example, frequent runaways, truancy, stealing, etc.);
- a history of many accidents of various types;
- social isolation which has recently become more prominent; and
- drug or alcohol abuse (Singer, 1980).

Several studies have examined parasuicide in terms of these contributing factors. Some studies report that the contributing factors to parasuicide are similar to those found with suicide. One Toronto study of parasuicidal youths, (n = 108), ages 8-18, indicated the following motives to the suicide attempt, in order of frequency:

- conflict with parents/step-parents;
- punishments which were too severe;
- 'love' problems;
- school work;
- unhappiness from broken homes, detention centres and foster homes;
- too much responsibility; and
- too much criticism and pressure.

Waller (1981) concluded: "Suicide is an end result: a conglomeration of worries which have escalated to an unbearable point."

These and other motives are supported by a more extensive study of adolescent suicide attempters (n = 505). The following characteristics were exhibited by the study group:

- medical problems (51%);
- school adjustment difficulties (46%);
- family history of psychiatric problems (36.8%);
- broken homes (32.4%);
- alcoholic parents (20.6%);
- obesity (12%);
- child abuse (11.8%);
- sexual assault (7.4%);
- acne (4.4%); and
- learning disabilities (2.9%) (Garfinkel and Golombek, 1977).

Comparative studies of adolescent parasuicides and suicides have demonstrated that the family environment is an important determinant of both parasuicide and suicide. In general, suicidal young people were found to be frequently in home situations characterized by distant family relationships, high mobility, divorce, working mothers or the absence of one parent. Researchers have explained that the negative influence was not created by the 'broken home' per se, but by the subsequent chaos and disorganization of relationships (Adam, 1983a; Davis, 1983).

Other studies have identified characteristics which differentiate parasuicidal adolescents from adolescent suicide completers (Maris, 1981). With regard to educational performance, one study comparing 1,500 suicides with 500 parasuicides reported that suicide completers were generally more successful, with 90 per cent functioning at the expected grade level, whereas 53 per cent of the parasuicidal adolescents were functioning below grade level or had dropped out of school. The two groups also differed in terms of previous psychiatric treatment and severity of mental disorder. Although only 25 per cent of the group of suicides had a history of psychiatric treatment, there was evidence of more severe psychiatric disturbance (depression/affective disorders, schizophrenia) than that in the group of parasuicides; 50 per cent of the parasuicides had a history of psychiatric treatment for severe mental disorders such as personality disorders characterized by depression, anxiety, aggressiveness and pervasive "characterological problems" (Golombek, 1984).

Differences based on sex have been reported for some of the contributing factors to adolescent parasuicidal behaviour. Female parasuicidal adolescents showed a higher incidence of family conflict and interpersonal problems with the opposite sex and, to a lesser extent, school, work and peer problems than did male parasuicidal adolescents. The males were more preoccupied with legal problems, personal problems, illness, unemployment and feelings of inadequacy and isolation (Miller, 1979).

Of particular concern to the Task Force are the contributing factors to suicide in Native youth. Although major sets of factors which resemble those found in the general adolescent suicidal population have been identified, there are also factors specific to the Native culture which need to be considered. In particular, two factors which differentiate Native youth from other young people are related to the family environment; a heavy reliance on family, resulting in social isolation and an absence of relationships outside the family; and physical abuse and violence, generally directed against the male child, resulting from the presence of the natural father in the home (Ward, 1981).

It may be concluded that despite the lack of an established model depicting the interplay of the various influences on the young person, the extensive research in the area of youth suicide has identified several predisposing and precipitating factors that may serve as reliable indicators of suicidal risk.

(ii) Elderly

Until quite recently, suicide was seen as primarily a phenomenon of old age. However, research shows that while the incidence of suicide among the elderly remains high, it has ceased to increase at the rate found in other age groups, such as those under 30 years of age.* Sakinofsky notes:

> The elderly do not commit suicide at a rate that is significantly disproportionate to their numbers. In 1977, old people constituted 9 per cent of the total population and accounted for 10 per cent of all reported suicides (Sakinofsky, 1982).

The risk to suicide among the elderly in Canada has been shown to reach a peak in the post-70-year age group, particularly in males (Sakinofsky, 1983) and the rate of suicide for males is three times the rate for females. Research has demonstrated a greater degree of overlap between the behaviours leading to suicide and parasuicide in the elderly than is the case with younger age groups. A greater number of parasuicides in the elderly lead to completed suicides. Shulman (1978) comments on the state of research in the area:

> Dorpat, Anderson and Ripley (1968) have compiled a list of factors associated with a high risk of suicide from among those who have already made attempts. These factors included increasing age, unmarried marital status, living alone, poor physical health, psychosis, lethal method used and unemployed or retired work status. This profile clearly fits the description of parasuicides or attempted suicides in old age. As a group, they 'cry for help' less frequently and use more potent means in a less implusive manner than younger age groups (Burston 1969; Benson and Brodie, 1975).

The underlying motives for suicide in elderly parasuicidal individuals have been rated as more intense than those found in parasuicidal individuals in younger age groups. Sakinofsky states that the elderly survive their parasuicide not because of lack of will, but due to selection of a method of insufficient lethality (Sakinofsky, 1976a). Shulman (1978) further argues that "every elderly parasuicide must be taken seriously no matter how gesture-like or manipulative the act appears to be".

(a) Social Attitudes

Given the steady increase in the proportion of elderly in Canadian society, the younger generation is beginning to perceive its existence as an increasing burden. As a result, within the last few years there has been a noticeable shift in attitude towards suicide among the elderly. Sakinofsky describes the prevailing attitude: "If a young person commits suicide, it is regarded as a tragedy; but in the old, it can be regarded as an acceptable solution." He further explains that suicide among the elderly is viewed differently than suicide among younger age groups. It is frequently condoned and described as 'rational', 'self-determined' or 'voluntary euthanasia'. These attitudes reflect a lack of respect and appreciation of the elderly, which too often leads to a lack of self-respect in the elderly individual (Sakinofsky, 1976a).

(b) Under-reporting

The problem of under-reporting of suicides is as significant in cases of the elderly as it is with young people. Coroners and medical examiners have reported difficulties in certification of the 'willed' death of old people who simply give up on life, or who hasten their own deaths through purposeful studied neglect (Syer-Solursh and Wyndowe, 1981). Suicidal elderly individuals have been shown to frequently refuse continuation of treatment for such serious conditions as cancer, diabetes and heart disease. This behaviour has been regarded as an "indirect method of suicide" (Atcheley, 1977).

(c) Contributing Factors

The following factors have been identified as major determinants of suicide in elderly Canadians, defined as over 65 years of age:

- deteriorating physical health;
- increased incidence of mental illness, particularly depression and dementia;
- retirement, primarily involuntary;
- social isolation;
- loneliness; and
- inadequate income (Lépine, 1982).

* See Tables in Appendix 11.

In particular, it has been suggested that the major role changes resulting from male retirement and from the female's loss of status as mother and wife, often results in boredom and purposelessness, thereby increasing the elderly's vulnerability to stress and the effects of loneliness (Sakinofsky, 1976a).

Alcohol and drug abuse have also been cited as factors contributing to suicide among the elderly. The coordinator of the "Meals on Wheels" service in Toronto reported that 20 per cent of their clients abuse alcohol; these were primarily widowers, followed by singles and couples escaping from the realities of old age. In the U.S., it has been reported that 10 per cent of all alcoholics under treatment are 60 years of age or older (Lavallée, 1982).

Studies have reported that depressed old people frequently suffer from sleeplessness, resulting in the heavy reliance on readily available sleep medication. Sakinofsky explains: "The person may begin to use these excessively, not only at night but during the day as well. These sleeping tablets are also ready at hand when, in the dark of despair, thoughts turn to suicide" (Sakinofsky, 1976b).

Depression and physical illness have been identified as the predominant factors that independently and interdependently determine suicide in the elderly. Although the incidence of first depressive episodes has been reported to decrease with age, the overall incidence of depression among the elderly remains high. Sakinofsky states:

> First, depressions in late life are more resistant; they may decline in frequency, but they generate more suicides. Secondly, there are those depressions which are recurrences from depressions which began earlier in life, and these have a marked tendency to recur. Thirdly, . . . the depressions of late life have a tendency to catch the physician and the patient's family alike off guard, and may seem less serious than they in fact are (Sakinofsky, 1976a).

The high incidence of serious physical illness in the elderly who attempt suicide, in the range of 35 to 85 per cent, has been repeatedly supported by research findings (Shulman, 1978; Batchelor and Napier, 1953; Sainsbury, 1962; Gardner et al., 1964; Dorpat et al., 1968; Burston, 1969). This relationship has also been demonstrated by the higher incidence of physical illness in the elderly who committed suicide than an age-matched control group of individuals who died accidentally.

Furthermore, a significant relationship between physical illness and psychological disorder in the elderly has been established. As noted earlier, these two factors are viewed as acting in an interdependent fashion, decreasing the probability of recovery, thereby increasing the risk of death. Thus, the presence of both physical disease and depression is considered to be a mutually aggravating factor (Kay and Bergmann, 1966; Post, 1972).

Since the interplay of a large number of factors has been shown to determine suicidal behaviour in the elderly, an interactional model seems necessary. Shulman has developed a "permissive" model of suicide and parasuicide in the elderly in order to incorporate all contributing factors (See Figure 19).

He provides the following explanation for his model:

> As in all psychiatric disability, the constitutional vulnerability, congenital or acquired in the course of development, is critical. Here, genetic loading (i.e., family history of depression), coming from a broken home, and early loss of a parent are relevant. Social factors which serve to isolate the elderly individual may be due to the unexpected loss of mates or caused by defects in interpersonal relationships which foster isolation. Isolation acts at two levels; first as a factor contributing to the development of the . . . state of giving-up and secondly as a permissive factor once suicidal intent has been generated by an affective disorder (Shulman, 1978).

Shulman's model recognizes that physical illness and affective disorder may occur independently, arise from the same premorbid state of giving-up, or be causally related. In any case, their presence together causes mutual deterioration. Once suicidal intent has been generated by a depressive illness, the extent to which it is permitted to intensify is determined by three factors: whether appropriate intervention and adequate treatment are instituted; the extent of social isolation and "desolation"; and the availability of a lethal method acceptable to the individual.

Recently, in recognition of the complexity and severity of the problem of suicide among the elderly, various groups and associations have made vigorous attempts to improve the quality of life for Canadian senior citizens. This may be reflected in the levelling off of the rate of elderly suicide over the past 20 years.

3. Native Peoples*

Native peoples are at high risk to suicide by virtue of the demonstrated high frequency of violent deaths in their society, accounting for 36 per cent of all deaths, three times the rate in the general population. More significantly, a report (Medical Services Branch, 1982) has shown that suicides account for 15-20 per cent of all violent deaths, and in 1982 the suicide rate was more than twice the rate found in Canada as a whole (36.1 per cent vs. 14.3 per cent). Approximately 60 per cent of the suicides occurred in the 15-24-year age group, with a male/female ratio of 3 to 1.

* Our investigation of Native people is limited to "status Indians", the only group for which national statistics are available. As such, our comments and conclusions refer only to this group and may not be applicable to other Native people.

(i) Under-reporting

It is generally agreed that the number of suicides among Native peoples has been significantly underestimated. The degree of underreporting has been shown to be related to the cause or method of death. For example, 1982 statistics of certified suicides show that no deaths by drowning, exposure or fires had been classified as suicides; motor vehicle accidents accounted for only 1.8 per cent of suicides, whereas firearms were the cause of 53.2 per cent of the deaths. When questioned, Native peoples themselves acknowledged a high degree of unreported suicides in the case of violent deaths. Jarvis and Boldt explain that in the case of homicide, the natives made "distinctions between officially-certified homicide and 'victim-induced' homicide, which they interpreted to be suicide." They further noted that " . . . 73% of automobile fatalities occurred when the weather was clear and roads were dry. Mechanical defects accounted for only one fatality. Drivers seem to shoulder a great part of the blame" (Jarvis and Boldt, 1982).

The high incidence of alcohol-related violent deaths among Native peoples complicates the certification of death as suicide. Research shows that a large number of suicides related to alcohol have been recorded as accidents due to the reluctance of the medical examiner or coroner to attribute suicidal intent to individuals who were intoxicated.

A study of 26 Native suicides in British Columbia (20 males and 6 females) noted several important characteristics of Native peoples who commit suicide. Both male and female suicides were found to exhibit the following characteristics:

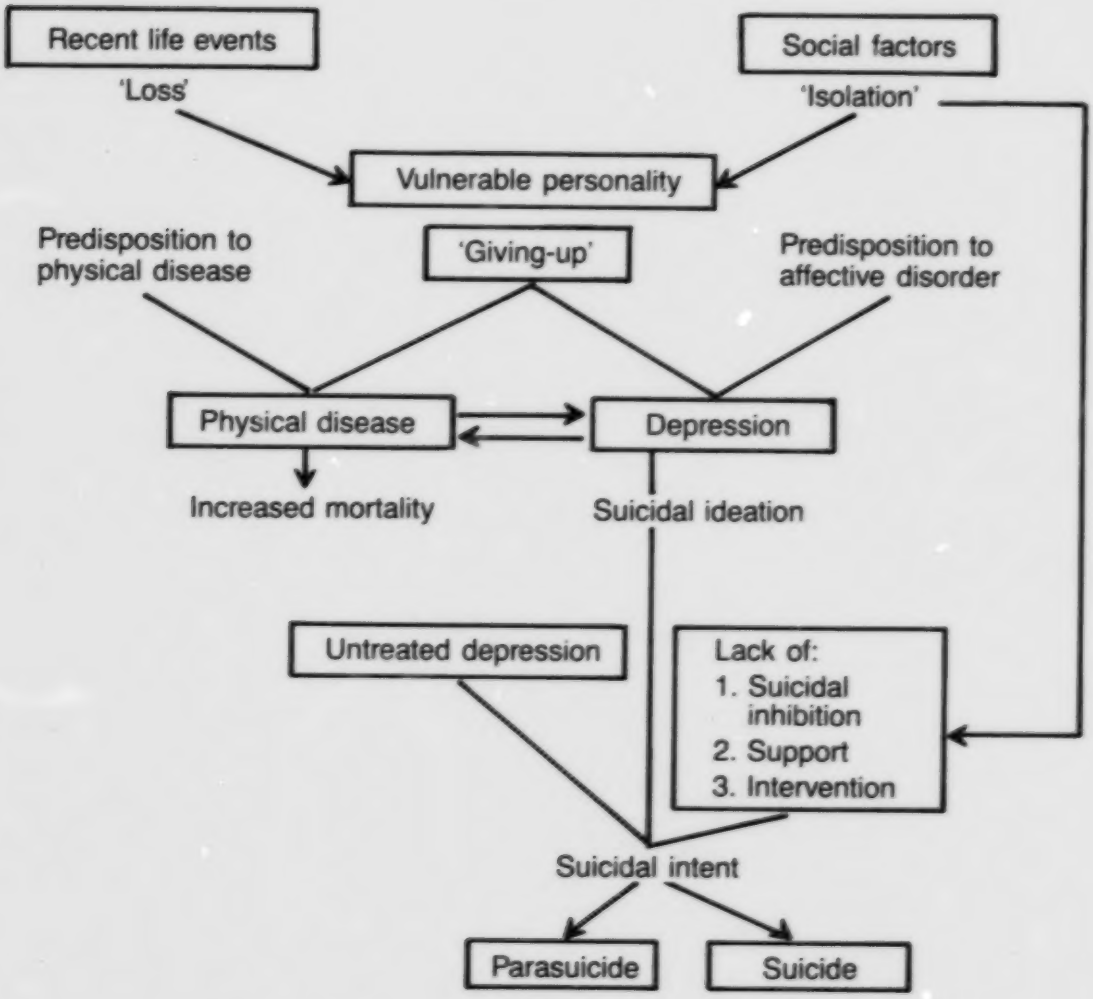
- frequent use of firearms;
- soft drug and alcohol abuse,
- physical signs of depression (e.g. sleep and appetite disturbance, crying spells, withdrawal and talk of dying);
- single marital status;
- financial problems;
- unstable home environment;
- family history of suicide; and
- occurrence during the winter months.

Only one difference was noted between the sexes: females tended to "elicit help from agencies" prior to death (Medical Services Branch, 1977).

(ii) Contributing Factors

A number of societal factors have been identified as contributing to suicidal behaviour among Native peoples. Many of these conditions have developed as a result of the difficulties of integration into the white man's society, illustrated by the many losses of the Native peoples: loss of control over

Figure 19. Hypothetical Model for Suicide and Parasuicide in Old Age.



Source: Shulman, K. Suicide and Parasuicide in Old Age. A Review of Age and Aging, 1978, 7.

their individual and collective destiny; a deterioration of traditional, cultural and religious values accompanied by the devaluation of spiritual leaders and other role models; and inadequate education as a result of the inability to adapt to the 'white' educational system.

Concerning education, it has been reported that more than 60 per cent of Native youth drop out of school by grade eight, and that less than 10 per cent reach grade 12. Consequently, one quarter of the native population are functionally illiterate. Inadequate education among Native peoples limits employment opportunities, forcing many to go on welfare. Research has demonstrated that Native peoples are among the most economically disadvantaged in Canada; 90 per cent live below the poverty level, 70 per cent are unemployed, at least 40 per cent are on welfare, and less than 40 per cent live in adequate housing (Ward and Fox, 1977; Syer-Solursh, 1979a; Termansen and Peters, 1979). Minimal opportunities for integration and acceptance into the "white man's" world has led to a sense of hopelessness and despair. Termansen and Peters comment on these conditions:

> The Indian is caught between the ruined fragments of a culture that had flourished robustly for centuries, and adaptation to the short end of our modern materialistic society. These . . . are precisely the conditions required for Durkheim's (1857/1951) original definition of "anomic" suicide, in which the individual is cut off from the meaning- and structure-giving forces in society (Termansen and Peters, 1979).

Some believe that the Canadian government's attempt to assimilate Native peoples into the general population has significantly contributed to their low self-esteem. One expert describes this phenomenon:

> It does seem to be abundantly clear, although it was stated otherwise, that well-meaning government policy was to simply absorb the Indian culture into the dominant white culture . . . He would become one of us 'a brown, white man'. He was considered to be savage, uneducated, and paganized. The government would not only civilize and educate this primitive person, but also save his soul. The principal mechanisms by which this civilization, education, and Christianization were to be accomplished were the residential boarding schools, which, until World War II, were run by various religious denominations. Because it was a crime for parents not to educate their children and since schools were seldom located directly on the reserves, the children were forcibly separated from their parents for ten months of each year. This system resulted too often in children who grew up with an image of themselves as an inferior, backward race. This image has been reinforced in the minds of both Indians and whites by books and productions of the mass media that portray Indians as savages (Ward et al., 1977b).

Studies have shown that among Native peoples, the most common and socially acceptable method of dealing with emotional stress is to internalize feelings. Curlée explains: "The traditional picture of the Indian is one who endures great pain without crying out; whose practice it is to hold in all pain, anger, worry, and every emotion" (Curlée, 1969).

One analysis of this phenomenon demonstrated that Native people generally respond to internal anger and unresolved pain in one of three ways – denial, depression, and somatic complaints (Mindell and Stuart, 1969). Another study reported that Natives were found to deal with emotional feelings through a violent release of feelings; or through the use of alcohol to reduce inhibitions so that "the feelings of violence, frustration, rage and despair, normally under control become released" (Ward et al., 1977b).

It is well established that although alcohol may, on occasion, induce temporary feelings of happiness and well-being, alcohol reduces inhibitions against the verbal or behavioural expression of feelings, and also impairs both perc_ption and judgement, as well as one's capacity to tolerate frustration. Consequently, many Native peoples who would not normally give vent to their feelings behave in a violent, explosive manner when under the influence of alcohol. Sometimes this violence is directed outwardly in the form of vandalism, beating, assault, rape and homicide; sometimes it is directed inwardly in the form of self-destructive and suicidal behaviour.

As with other groups, alcoholism has been shown to contribute significantly to the family discord and conflict evident in the family backgrounds and lives of many Native peoples who commit suicide (Ward et al., 1977b). Studies have reported that 62.5 per cent of Native suicide completers had a history of alcohol abuse; 85.7 per cent had been drinking immediately preceding their death; while 53.0 per cent were "under the influence of alcohol" at the time of suicide (Jarvis and Boldt, 1982).

Depression has been found to be the most prevalent mental disorder of Native peoples who commit suicide. According to the Annual Report of the Medical Services Branch, Pacific Region (1977), all but three suicides among Native peoples in British Columbia displayed symptoms of severe depression prior to death. A history of psychiatric treatment was found in 28 per cent of this group. Native peoples inclined towards suicide have been particularly vulnerable to the loss of 'significant others' through family disruption; a frequency of inappropriate parental substitutes; death in the family; death from violence and frequent moves to boarding schools (United States National Institute of Mental Health, 1973).

Social isolation has also been found to be a significant determinant of suicide in Native peoples. Ward notes:

> In each case, there appears to be an astonishing lack of any intimate personal relationship with any of their peer group outside the immediate family. When they socialized they tended to do this in groups, in drinking parties, but almost nothing is recorded of close friendships . . . or of sweethearts. For many, the isolation had been longstanding, from early childhood (Ward, 1981).

A comparison of the marital status of Native suicide victims with the general population showed a greater proportion of single and isolated individuals among the Native group. Termansen and Peters note that:

> . . . although it is not possible to transform the Native Indian data into rates, the data suggest that the absence of a significant supportive relationship outside of the immediate nuclear family may be reflected in a greater over-all risk for suicide (Termansen and Peters, 1979).

Physical illness is yet another factor found to contribute to Native suicides. A study of a group of suicide completers and suicide attempters indicated that 25 per cent of the group suffered from a 'significant' physical illness (Termansen and Peters, 1979).

In conclusion, the picture which emerges is that of an isolated, vulnerable individual within a fragmented, deprived and shattered culture. To reduce or eliminate this high-risk situation, significant changes are required to ameliorate all contributing factors and the interaction between them.

4. Persons in Custody

Those individuals in custody are considered to be another high-risk group. The Task Force attempted to identify and analyze the key factors associated with suicidal behaviour in persons in the custody of the Canadian criminal justice system. Based on the findings of a study conducted by the Correctional Service of Canada (1981) the following observations can be made:

- both maximum- and medium-security institutions had higher rates of suicide than minimum-security institutions;
- higher suicide rates were more prevalent in dissociation areas than in general cells;
- age did not correlate with suicide rate;
- a higher rate of suicide was associated with both low and high levels of educational attainment;
- a higher rate of suicide was evident in inmates convicted of crimes against another person than inmates convicted of property crimes;
- no significant relationship was found between suicide and marital status;
- no significant relationship was found between suicide and I.Q., sentence length, or time since admission; and

- hanging was consistently the most common method employed.

Table 9 shows the number of suicides in Canadian penitentiaries during 1973-1982. The many variables involved in calculating inmate years and bed-occupancy days hamper empirical comparison with suicide rates in the general population. Nevertheless, there is evidence to support the notion that the overall rate of suicide in federal institutions is higher than in the general population, perhaps in the order of 3 to 1. The high rate of suicide in the inmate population assumes particular significance in view of a penitentiary environment characterized by constant surveillance and reduced availability of lethal means.

Table 9 Incidence of suicide in Canadian penitentiaries, 1973-1983

Year	Inmate population	Number of suicides
1973	8,832	10
1974	9,239	7
1975	8,456	8
1976	9,325	5
1977	9,429	11
1978	9,407	6
1979	9,420	7
1980	9,549	10
1981	10,025	12
1982	10,982	14
1983	n/a	19
	Total	109

Source: Correctional Service of Canada. Self-inflicted injuries and suicides. Unpublished document. Ottawa: Bureau of Management Consulting, 1981.

(i) Contributing Factors

The factors which have been identified as influencing a prisoner's motivation to suicide are directly related either to the circumstances of imprisonment or to the personal history of the inmate.

Factors which are related to the circumstances of imprisonment include:

- the view of prison as punishment and disgrace;
- denial of membership in a decent, law-abiding society;
- loss of control over life;
- loss of privacy;
- loss of family and friends;
- the closed social system of the prison (eg. the 'cons' vs. the authorities); and
- an atmosphere of violence, fear and distrust.

The following characteristics are frequently evident in the personal histories of the inmate population:

- deprived family background typified by abuse and/or criminality;
- history of violence;
- psychiatric disturbance; and
- drug and alcohol abuse.

(ii) Self-injurious Behaviour

The accuracy of reporting attempted suicide is hindered by the prevalent phenomenon of self-inflicted, low-lethality injury which is motivated by other objectives, such as the desire to relieve boredom or tension, or to manipulate the system. Studies to date are based on data that do not reflect a distinction between self-injurious behaviour and attempted suicide; there is no standardized method to distinguish attempted suicide from potentially less lethal self-injurious or self-mutilating behaviour. Nevertheless, in recognition of the problem, researchers involved in the Correctional Service of Canada (1981) study proposed the following definition of self-injurious behaviour: "The term self-mutilation or self-injurious behaviour refers to actions taken by the individual to cut off, remove, maim, destroy or render imperfect some part of his body." However, this definition does not directly address the issue of intent, a crucial distinguishing feature of attempted suicide as opposed to self-injurious behaviour.

Annual studies by federal institutions have reported a disproportionate number of non-fatal, self-inflicted injuries when compared to the number of actual suicides in the inmate population; a ratio of 230 to 7 (Correctional Services of Canada, 1981). This disproportionate ratio, also evident in provincial institutions, has forced the correctional staff to treat the problems of self-injurious behaviour as seriously as completed suicide. This greater number of non-fatal, self-inflicted injuries provides more extensive data for the study of the general phenomenon of self-injurious behaviour, including suicides.

The findings of the CSC study provide a profile of the federal inmate self-inflictor:

- younger than average, typically 24 years of age;
- single or unmarried;
- self-inflicting early in their stay at a particular institution, having been in the system a relatively long time;
- frequently a repeat offender;
- history of alcohol and drug abuse;
- average intelligence; and
- a low level of educational attainment.

Neither this profile of the self-inflictor, nor the conclusions drawn from the study of suicide victims, provides sufficient information to allow the positive identification of inmates at risk to suicide. Past behaviour, however, could provide an indication of potential future behaviour; and any significant behaviour changes should be viewed as possible indicators of suicidal behaviour.

5. The Bereaved

It has been estimated that at least 750,000 persons are intimately affected by suicidal behaviour each year in the United States, and that surviving family members are the most directly implicated (Shneidman, 1969). Years have passed since this estimate, and differences exist between the populations of the U.S. and Canada, but it is reasonable to suggest that at least 40,000 to 50,000 Canadians are affected in this manner each year.

Normal bereavement has been shown to proceed through a series of stages, though not everyone goes through all stages (Bugen, 1977), and regression to previous stages is not uncommon (Ramsay, 1977). The stages of bereavement have been labelled differently (Averill, 1968; Bowlby, 1969; Engel, 1961; Simos, 1977), but the majority of researchers agree that there are three. The first stage is one of shock and disbelief, during which the loss is often denied. The bereaved may insulate themselves from the loss and function more or less mechanically; this behaviour is especially common if the relationship with the deceased was close and the death unexpected (Bugen, 1977).

The next stage involves disorganization and acute grief. During this period, denial gives way to pain, distress, depression and preoccupation with thoughts of the deceased. Over time, the second stage merges into the third, the reorganization or recovery stage, where the acute symptoms decrease, the trauma is overcome, and the bereaved reintegrate their lives in the absence of the lost person.

Throughout the normal grieving process, the bereaved are usually provided with a great deal of social support; family and friends discuss the death and its effects, and mutual aid ensures, for most people, a relatively smooth transition from life with the deceased to life without them. The survivors are helped through such problems as feelings of anger, guilt and helplessness.

Bereavement from suicide may be subject to similar progressive stages, but it is complicated by a different type of tragic circumstance and subsequent response. Winch and Letofsky explain:

> . . . most survivors of suicide share the trauma of a death that is both a shock and shocking. There has usually not been a medical diagnosis nor a terminal prognosis. Typically, the death occurs in physical circumstances whereby family and friends find themselves confronted

by a body, often disfigured, without the professional support of hospital personnel. They are immediately questioned by the police, coroners, insurance investigators, and possibly members of the news media. In all of these aspects, a death by suicide provides a unique situation for survivors that is qualitatively different from the one usually experienced by family members after a more "normal" death (Winch and Letofsky, 1981).

In addition, there may be a feeling of responsibility for the suicide. In fact, guilt can become the central issue. The bereaved often go over the pre-death events looking for errors of commission and omission. Those bereaved by suicide are often left with unanswered questions and a mixture of feelings, including guilt, anger, hurt, relief and confusion.

Studies have shown that the support of other people is frequently lacking in cases of suicide. Clergymen often feel awkward in dealing with such deaths, while friends and even family members may not want to discuss the "touchy subject" of suicide. The bereaved themselves may not want to "burden" friends or may be ashamed to talk about the event. In many cases, this hesitancy leads to a conspiracy of silence in which the fact of the suicide is buried and the bereaved are left to imagine the worst, giving free rein to their own fears and assumptions (Cain, 1966). This has been shown to be particularly true in the case of children whose parents or siblings kill themselves, in which case they often blame themselves for the suicide, thinking that the death was the result of a poor performance of some kind (e.g. unsatisfactory report card), or because they have been "bad" in some way. The children may also be misled as to the nature of a death in the family. Syer-Solursh notes:

> Well-intentioned adults may give the child a false explanation for the absence of the dead parent or attribute the death to causes other than suicide. While in many cases such a "white lie" does no immediate harm, often the child knows the truth of the matter, having witnessed the suicide or found the body of his parent. To have their direct experiences of a suicide so totally denied is both confusing and frightening to such children and the long-term pathological effects may be severe (Syer-Solursh, 1979b).

The lack of both discussion and social support, which are essential in the process of bereavement, results in pathological grief, in which bereavement is inordinately intense or prolonged. "The survivors of a suicide are likely to get 'stuck' in their grieving and go on for years in a state of cold isolation" (Linderman and Greer, 1953).

Research has established that those who are bereaved by suicide are themselves a high-risk group for suicide (Cain and Fast, 1972; Beck et al., 1974). Studies indicate that a person is nine times more likely to commit suicide if he comes from a family with a prior suicide (Giffin and Felsenthal, 1983). Several explanations of this phenomenon have been proposed.

First, the personal experience with suicide may induce a view of suicide as a means of escape or coping with one's problems. In the case of a survivor who strongly identifies with the individual who committed suicide, there is a possible modelling effect.

Second, strong guilt feelings may evolve into a desire to punish oneself, with a perception of a certain justice in choosing suicide as the course of action. The irrationality of this attempt "to make amends" and share the fate of the deceased greatly increases the suicide potential of the "at risk" survivor. Another demonstrated form of irrationality is the commonly expressed romantic desire to rejoin the lost loved one in death. This "Romeo and Juliet" perspective is typical of dependent personality types who cannot come to terms with living alone. For such individuals, anniversary dates and traditional family holidays are particularly dangerous times.

D. THE DETERMINATION OF SUICIDE: DATA COLLECTION AND CERTIFICATION

The extent to which research and analysis in the area of suicide contributes to a better understanding of the phenomenon, is largely dependent on the accuracy and consistency of the method of determining suicide as the manner of death, and the reliability of the resulting data base. This accuracy and consistency is currently absent in Canada, and should be addressed in order to improve the prospects for research and the treatment of suicidal behaviour.

In Canada, the cause and manner of death is determined through the death certification system. Determination of the cause of death – the actual physical process by which death occurs – is clearly a medical matter, and is usually attended to by a physician or, in the case of a sudden unexpected death, a forensic pathologist. Determination of the manner of death, however, involves various unknown psychological and social influences, thereby demanding the involvement of experts other than a pathologist. It is essential, for the proper assessment of the situation, that the certifying officials have access to professionals with specialized training and investigative skills.

1. The Laws

The certification of death is a provincial and territorial responsibility, and each jurisdiction has a death certification system based in law. The laws governing death investigations stipulate the types of deaths which require investigation prior to certification. They demand investigations of deaths designated as possible suicides, accidents, homicides, and in some cases, natural deaths, particularly where negligence may be involved, or where the death occurred in a jail or other public institution.

In the case of a non-natural death, officials such as coroners, medical examiners or provincial judges are required to determine, if possible, the identity of the deceased, as well as the time, place, cause, and manner of death. Suicides are typically categorized as "notifiable deaths" and demand special investigation, though the word "suicide" is mentioned in only three of the acts: those of Newfoundland (Summary Proceedings Act, 1979), Alberta (Fatality Inquiries Act, 1976) and British Columbia (Coroners Act, 1975).

These acts do not specify the criteria to be used in determining the cause or manner of death; such decisions are left to the discretion of the certifying officials. Although the general system of death certification is determined by law, the type of system employed varies between jurisdictions across Canada.

2. The Systems

The two general systems of death certification employed in Canada are the Coroner's and Medical Examiner's systems, with the exception of the Judicial System in Newfoundland which places death investigation under the authority of provincial judges.

The Coroner's system is the most common certification system now in effect in eight provinces across Canada. The approach to death investigations and the designated responsibility of the coroner are generally consistent across the provinces. In the case of a sudden and unexpected death, the coroner is responsible for determining the cause and manner of death, using available evidence and, when necessary, taking measures to collect further data. In the case of equivocal death, the coroner is authorized to hold an inquest in order to secure further clarification of the death.

Due to the lack of general standards set for the qualifications of coroners by the various Coroners' Acts and Ordinances, there is considerable inconsistency in the qualifications of coroners across provinces. Ontario is the only province in which coroners are required by law to be physicians. The requirement for medical expertise in the certification process is not reflected in the minimum qualifications of coroners within most provinces.

This inconsistency requires a review of the structure of provincial and territorial Coroner's systems, as well as the issue of local autonomy versus jurisdiction-wide control and supervision. In order to achieve even a minimal degree of consistency in death certification, particularly with the variety of backgrounds of coroners found in the various Coroner's systems, it is necessary to develop a system whereby supervision of local coroners is possible. In most provinces and in the territories, there is a chief coroner responsible for the overall supervision, direction and control of all coroners within the province or territory.

It is significant to note, however, that although many Coroner's systems allow for control at the provincial or territorial level, the extent to which this direction is exercised may vary. It is not possible, for example, for the chief coroner to exercise day-to-day supervision over all coroners in a given jurisdiction. It is possible, however, for a chief or regional coroner to offer programs of instruction to local coroners, and to guide them in a general way. This system is more feasible in Ontario, for example, where the coroners are all medically trained, than in British Columbia, where the training and backgrounds of local coroners vary considerably, or in Quebec, where there are 85 autonomous local coroners.

The Medical Examiner's system, used in Alberta and Nova Scotia, addresses the issue of the standardization of qualifications of certifying officials through the Fatality Inquiries Act, which requires that all medical examiners be physicians. In addition, this system separates the medical and judicial aspects of death certification, allowing each aspect to be performed by specialized individuals. The medical aspects are investigated by physicians, while the legal aspects such as inquests and public inquiries are under the authority of provincial judges. As is the case with the Coroner's system, the extent of provincial supervision and control within each Medical Examiner's system varies between provinces. In general, while there are specific similarities and differences between the two systems, as well as within each particular system, the Medical Examiner's system and the Ontario Coroner's system, by virtue of their standardization of requirements, allow for greater consistency and accuracy in death certification than does the Coroner's system as generally structured.

Based on a review of the certification systems presently employed in Canada, the Task Force further concludes that to improve the consistency of death certification, there should also be a chief medical examiner or coroner in each province with the authority to train and supervise local officials. Training should focus upon such matters as the effect of the medical examiner's or coroner's attitudes toward suicide on the certification process and the ramifications of this process upon the bereaved.

3. Under-reporting and Attitudes of Certifying Officials

It is well established by research that suicides are under-reported (Brugha and Walsh, 1978; Liberakis and Hoenig, 1978; McCarthy and Walsh, 1975; Ovenstone, 1973). The factors that have been identified as affecting the degree of under-reporting of suicides are the type of certification system, (Atkinson et al., 1975) and the qualifications (Nelson et al., 1978) and attitudes (Farberow et al., 1977) of certifying officials. It has been argued by some that this under-reporting invalidates cross-jurisdictional comparisons of suicide rates (Atkinson et al., 1975; Nelson et al., 1978; Douglas, 1967). Others, however, while acknowledging that suicides are under-reported, maintain that this does not invalidate such comparisons, or obscure real differences in suicide rates between jurisdictions (McCarthy and Walsh, 1975; Sainsbury and Barraclough, 1968). Although the validity of comparisons of suicide rates between jurisdictions in Canada remains a subject of debate, it is evident that great variation exists in the methods of death certification which limits the collection of valuable data on suicides that would be useful in terms of suicide prevention, intervention and postvention.

In some cases, the manner of death is difficult to determine. The determination of a

death as suicide largely depends upon the inferred intention of the deceased which can only be established on a retrospective basis. If evidence of such intention is absent, the death is considered accidental, and the manner of death to be undetermined. "Evidence" varies, however, and this variation may be influenced by the attitudes of officials (Farberow et al., 1977).

There are two general approaches to solving an undetermined death. One is the "balance of probabilities" approach, in which evidence gathered at the scene, psychological and physical autopsy data, and toxicological results are weighed and the most probable manner of death is decided.

The other is the "beyond a reasonable doubt" approach: after evidence has been gathered, a death will not be certified as a suicide unless it can be proven beyond a reasonable doubt, and for some officials, a reasonable doubt almost always exists. A certifying official reluctant to certify a death as suicide will likely use the "beyond a reasonable doubt" approach, while one who is not so reluctant will use the "balance of probabilities" approach. As long as the former approach is used, however, many probable suicides will go unreported.

A study of 350 Ontario coroners determined that 33 per cent of the coroners were reluctant to certify a death as suicide. The primary reason given was the emotional effect on the family; secondary concerns were life insurance considerations, stigmatization of the dead person, possible legal consequences and religious and moral considerations. As many as 38 per cent of the coroners also admitted that, even in the case where suicide was probable, they would either certify the death as undetermined or would simply fail to denote the manner of death. Some coroners (16 per cent) pointed to the inadequacy of the working definition of suicide and the lack of standardized criteria used by coroners for determining a death as suicide, resulting in "obvious variability" (Syer-Solursh and Wyndowe, 1981).

Certifying officials have suggested that the accuracy of suicide data could be improved by changing medical certificates of death to reflect the degree of certainty of suicide. This would allow a coroner or medical examiner who "knows the death was suicide" but who "can't prove it" to check a box which indicates the degree of probability of suicide (e.g. suicide possible, suicide probable). If such a change were made, the undetermined category would be used only for deaths with truly undetermined causes, and would not be used, as it is now in many cases, to "hide" probable suicides (Brown, 1975).

Based on the advice of the coroners and medical examiners, and a review of the approaches taken by certifying officials in determining manners of death, the Task Force concluded that the determination should be based upon the "balance of probabilities" approach. They agreed that the availability of this option could decrease the overuse of the "undetermined" category on the certificates, thereby, improving the reliability and validity of the statistics used for education and research purposes.

The Task Force maintains that suicidal deaths should be investigated as thoroughly as accidental deaths. In the case of possible suicide, the intention of the deceased must be established through the social and psychological analysis of a psychological autopsy. Implementation of the collection of data in a uniform manner would not only improve the accuracy of death certification, but would also add information which is critical to the understanding of suicide. This measure would also allow the bereaved to talk about the suicide in a non-judgemental context.

Recommendation #1. Mental health professionals in each province and territory who are knowledgeable about suicide, should work toward the development of a classification system, to be used for the determination of the cause and manner of death, implementing uniform and unbiased criteria designating degrees of probability.

IV PREVENTION, INTERVENTION AND POSTVENTION: DESIGNING A RESPONSE TO THE PROBLEM

In structuring a strategy for the effective control, reduction and prevention of suicide, the Crisis Intervention Model has been adopted in this report. The specific measures identified by the Task Force to cope with the problem of suicide have been divided into the three categories employed by this model: prevention, intervention and postvention.

The category of prevention deals with measures which might be taken to reduce the prevalence or probability of suicidal behaviour. The objective is to identify areas and directions which should be pursued in order to exert a positive influence on potentially suicidal individuals. For the purposes of this report, these areas have been itemized as follows: amelioration of societal influences; improved media relations; public education; reduction in the availability and lethality of means; and upgraded education and training programs for health care professionals and gatekeepers.

The category of intervention includes sets of procedures to be used in managing suicidal crises. This involves the development and utilization of specialized techniques in assessment and counselling, as well as the application of various treatment modalities aimed at intervening in the suicidal process.

The third category, postvention, delineates measures to be taken following a suicide. The objective here is two-fold: to provide follow-up support and counselling services for the bereaved, and to construct psychological autopsies of the victims of suicide for the purpose of obtaining information on pre-suicidal states and activities. The latter is a valuable contribution to the understanding of the event for the family, as well as health care workers and researchers.

A. PREVENTION

1. Amelioration of Societal Conditions

As discussed earlier in this report, available research suggests that certain social phenomena have a direct influence on the prevalence of suicidal behaviour. Drastic socioeconomic change and conditions, and excessive use of drugs and alcohol have been positively correlated with increased suicidal behaviour. Obviously, there is no quick or easy solution to these fundamental social problems. However, it is suggested that health care professionals attempt to increase official awareness of the convincing evidence supporting a strong relationship between these societal factors and suicide. A recognition that the increased incidence of suicide is a probable result of adverse social conditions, may contribute to more effective strategies designed to ameliorate these factors.

2. The Requirement for Public Education

(i) Improved Media Relations

It is widely acknowledged that the media exercise a powerful influence on public attitudes, beliefs and behaviour. Therefore, as part of a suicide prevention program, public and mental health authorities should be encouraged to work closely with the media. In this connection, there has been considerable evidence to support the theory that suicide is often the result of imitation (Pell and Walters, 1982). It appears that both the "popularity" of specific methods of suicide, as well as the likelihood that the vulnerable individual will act in a self-destructive fashion, are influenced by the frequency of, and manner in which, suicides are portrayed by the media. Research conducted in the United Kingdom and the United States has found that there is a general and immediate increase in the incidence of suicide in the geographical area in which media coverage of suicide occurs. A direct and positive relationship between the degree of publicity given a story and the increase in the rate of suicide has also been reported (Phillips, 1979).

Further support for the theory of imitative suicides is provided by a study depicting the close relationship between the number of subway suicides that occurred during a 1971 suicide epidemic in Toronto, and the number of subway suicides covered by the media during that time. Littmann concluded that:

> During an epidemic, the press should subordinate its duty to inform to its role of controller. This it can do by renouncing, at least temporarily, its duty to inform the general public about suicide. By doing so, its silence on the subject addresses itself to certain susceptible individuals and offers them protection in this manner (Littmann, 1983).

Additional research provides evidence that the media, through its coverage of suicide, has a strong influence on the attitudes and degree of grief experienced by the bereaved. Publicity can cause further grief by "reactuating the tragedy, stimulating gossip and perhaps maintaining the stigma of suicide" (Barraclough and Sheppard, 1977).

As a first step towards establishing an improved working relationship with the media, public and mental health authorities should familiarize themselves with existing attitudes and sets of criteria influencing the media's coverage of suicide. Reports have indicated that the decision of Canadian newspaper editors to publicize a suicide is governed by the following criteria: occurrence in a public place; prominence of the victim; effect on other people; and/or the unusual nature of the method involved (Pell and Walters, 1982).

Most members of the media are genuinely concerned about how to best approach the tension which exists between the responsibility to keep the public informed, on the one hand, and the "contagion" effect or inappropriate attitudes towards suicide, which may result from this coverage. The media certainly has the right to report suicides; however, this right should be exercised in consultation with knowledgeable mental health professionals in order to develop the skills required for their roles in public education, and ultimately, suicide prevention.

Recommendation #2: Mental health professionals knowledgeable about suicide should consult with media representatives in an attempt to mitigate the negative effects of media coverage of suicides.

(ii) Public Education Programs

The results of a questionnaire circulated to individuals involved in the area of suicide by the Steering Committee of the Canadian Association for Suicide Prevention (Appendix 4) indicated a strong recognition of the requirement for improved public education. Public and mental health authorities and media agencies should be encouraged to make a collaborative effort to develop a comprehensive system of public education in the area of suicide. Efforts in Canada and the U.S.A. such as T.V. Ontario's televised panel discussion of "Childhood's End", and the ongoing American media kit of public service announcements, "Suicide – It Doesn't Have to Happen", should be evaluated in terms of specific program objectives and effectiveness in meeting these objectives.

These programs should be directed towards reducing the stigma attached to seeking treatment for depressive and suicidal states. The encouragement of positive attitudes could assist in the treatment of all forms of self-destructive behaviour. The phenomenon of suicide should be portrayed as a social problem to be dealt with, not as a disgrace to be concealed. A positive approach to the problem would be further reinforced by the portrayal of suicidal ideation as being common during times of stress. It is also important to address the stereotype held by men which relates the seeking of treatment to an admission of weakness. Since early detection and confrontation are major factors in suicide prevention, public education should provide information regarding the warning signs of suicide, the groups at highest risk to suicide, and the various coping skills and resources available for use in times of distress.

Recommendation #3: Public education programs should be developed by recognized mental or public health authorities in collaboration with media agencies (e.g. The Press Councils), with a view to reducing the stigma attached to seeking treatment for states of depression; informing the public about the warning signs of suicide; and familiarizing society with various coping skills to use in times of distress.

3. Reduction in the Availability and Lethality of Means

There has been considerable debate as to whether the removal of preferred methods of suicide reduces the probability of suicidal behaviour, or if suicidal individuals will inevitably seek alternative means. Since there are no Canadian studies on this issue, foreign research is cited which strongly supports a strategy of reduction in the availability and lethality of means. It is hoped that these studies will serve as models for similar research in Canada.

Several studies were conducted in the United Kingdom following the reduction in the toxicity of domestic gas supplies (Hassal and Trethowan, 1972; Kreitman, 1976; Low et al., 1981; Sainsbury, 1955). Researchers demonstrated that the large decrease in numbers of suicides during this period could be totally accounted for by the reduction in suicides by domestic gas poisoning (Hassal and Trethowan, 1972). It has been reported that since toxicity reduction, there has been a significant decrease in suicides resulting from inhalation of domestic gas in all age/sex subgroups in Great Britain (Kreitman, 1976).

A further study of trends in suicide rates over the period 1876-1975 reported that the availability of lethal agents was an important determinant of the decreasing trends in suicide rates. Although suicides by other means increased with the reduction of toxicity in domestic gas, the overall rate of suicide by all methods had declined (Low et al., 1981). In contrast to these findings, Sainsbury et al. contended that "the supply of toxic gas did not effect overall suicide mortality and that other reasons for it have to be considered" (Sainsbury et al., 1955).

While one cannot directly extrapolate from these studies to Canada, implications can be drawn from the strong evidence provided which would argue in favour of reducing equally lethal and easily available methods of suicide in Canada. The province of Alberta has already initiated such action. The Alberta Task Force on Suicide made several recommendations regarding the availability of lethal doses of drugs; these could readily be applied across Canada.

The following are some of the recommendations:

(a) A computerized system should be implemented to monitor excessive drug prescriptions by doctors, prescription shopping and "double doctoring".

(b) Educational programs for physicians should include information regarding the probable lethal dosage of various drugs and techniques in limiting the dosage.

(c) Public education programs should aim at discouraging the accumulation of lethal amounts of drugs in household medicine cabinets (Boldt, 1976).

A further area for action may lie with improved gun-control legislation or stricter enforcement of current legislation. In this regard, American research should be considered concerning the relationship between incidence of suicide, on the one hand, and the availability of firearms and gun-control legislation on the other. One study showed that over the period 1962-75, the increased suicide rates corresponded to large increases in the importation of firearms and domestic production of firearms. This study found that the increase in the overall suicide rate could be almost totally explained by the increase in suicides involving firearms (Boor, 1981). Further support for improved gun-control legislation is provided by a study of the relationship between the degree of handgun control and the rate of suicides by firearms (Lester and Murrell, 1983). In general, this study showed that those states with stricter laws had a lower incidence of suicides by firearms. Restrictions on the selling and buying of handguns had a greater effect than restrictions on the carriage of handguns. The results also indicated that improved gun-control legislation had a positive effect on the reduction of overall suicide rates despite an increase in suicides by other means.

In Canada, by American standards, we already have strict gun control legislation. It is debatable whether additional legislation is required in this country. However, we are certain that strict enforcement of the current legislation is an important preventative measure.

Finally, limiting the accessibility of "attractive hazards" has been shown to be correlated with the frequency of suicide. A study of the intervention in suicide attempts off the Golden Gate Bridge in San Francisco proved that intervention was successful in preventing suicide (Seiden, 1978). The results of this study also support the theory that suicidal behaviour is crisis-oriented and acute in nature, and that restraining access to attractive and lethal means of suicide during an acutely suicidal state may be an effective means of preventing death.

In conclusion, it is suggested that the physical availability of accepted methods of suicide is a major determinant of suicide, and that suicide may be reduced by decreasing the availability of these more common methods.

Recommendation #4. Measures should be taken to reduce the lethality and availability of instruments of suicide (e.g. more stringent enforcement of gun-control legislation, more stringent control of the distribution of medications, and wherever possible, limitations on the accessibility of attractive hazards).

4. Education and Training for Health Care Professionals and Gatekeepers

Various groups involved in suicide prevention have expressed a need for additional information and training in the area. The broad range of strategies and areas to be considered in the prevention of suicide involves an equally wide range of individuals requiring specialized skills and expertise. The groups dealt with in this report are health care professionals and "gatekeepers" – clergy, police, custodial personnel and school personnel.

The Task Force's members propose that there be a collaborative effort involving provincial governments and their coordinating bodies responsible for educational programming in the various disciplines, designed to promote information and training programs on an interdisciplinary basis. Furthermore, standards of minimal academic and clinical requirements should be set in the various disciplines to provide the framework and focus for future curriculum design. These should emphasize the development of positive attitudes toward the suicidal individual and the acquisition of skills required for effective assessment and treatment.

Sakinofsky identifies the requirements in the medical profession:

> Societal factors beyond the sphere of influence of the family doctor are at work. We are passively in the grip of changes in contemporary lifestyles associated with weakened ties to family and tradition, and it is doubtful that even governments have the power to influence them . . . physicians can maintain a high level of interest in the larger social causes of suicide and continue to press governments to take social action. However, it is in their offices and in the hospital emergency rooms and wards where their behaviour as primary physicians is crucial to suicide prevention. The need is to identify depression and suicide potential and to manage it effectively (Sakinofsky, 1982).

Research shows that a large proportion of suicide victims consult their family physicians within the three- or four-week period prior to the suicide event. This suggests a strong professional requirement for skills in detecting and assessing depression and possible suicidal behaviour. The task is a difficult one, complicated by the frequent masking of depression by concurrent problems. The complex task of detection, assessment and treatment of the suicidal patient requires a wide range of skills across all professions.

In order to determine the adequacy of current information and training programs on suicide and suicide prevention, the Task Force conducted surveys within the faculties of relevant disciplines in the health care field. These included faculties of Medicine, Nursing, Social Work and Departments of Psychology.

In general, the surveys revealed a limited level of education in the area of suicide across all disciplines, with a somewhat greater focus at the graduate level. This would seem to reflect a perception that the degree of special preparation needed for effective management of the suicidal individual is minimal. In many programs, suicide was not treated as a separate issue and was subsumed under the general topic of depression.

(i) Health Care Professionals

(a) Medicine

The results of a survey conducted in medical schools revealed that limited attention was paid to the area of suicide. At the undergraduate level, the time devoted to the area ranged from a single handout on suicide to a formal lecture given by a suicidologist, as well as exposure through routine rotation on emergency wards. At the graduate level, there appeared to be a somewhat greater concentration on the area of suicide, both in terms of curriculum content and teaching time. However, four medical schools reported "no specific content related to suicide." In some schools, at the graduate level, education in the area took the form of an introductory seminar during the first year, followed by 1-2 hour sessions as part of tutorials on the general topic of major affective disorder. In other schools, three seminars each year were devoted to assessment and prevention of suicide.

(b) Nursing and Social Work

A more comprehensive survey conducted in schools of nursing and social work found that, in both disciplines, the curriculum design was based on the needs of the following "high-risk groups": adolescents, psychiatric patients, the middle aged, isolated persons, alcoholics, drug addicts and people in crisis. Training focused on suicide intervention and prevention with an emphasis on skills in detection and assessment of suicide risk. Training in counselling of the bereaved was less prevalent.

In nursing schools, and to a lesser degree in schools of social work, education and training in the area of suicide was reported as being a high-priority area, with the objectives being the erasure of any existing negative attitudes or fears related to dealing with the suicidal individual, and the upgrading of the level of professional expertise and confidence.

Regarding the question of time devoted to the area, schools of nursing had the highest proportion of time spent which they felt was sufficient; schools of social work, on the other hand, were divided on the question of whether the time spent was adequate. Neither discipline was unanimously in favour of changing the orientation of their education and training in the area of suicide, or of bringing in outside resources. Internal resources were often considered sufficient.

(c) Psychology

A less detailed survey conducted in schools of psychology pointed to a general lack of agreement on the following questions: whether the time devoted was adequate, whether it should be regarded as a priority, and whether a change in the orientation of programs was required. As with schools of social work and nursing, respondents felt that they possessed adequate internal resources to deal with the topic in an effective manner.

Additional evidence of the limited information available to health care professionals is provided by the results of the survey conducted by the Steering Committee for the Canadian Association for Suicide Prevention (Appendix 4). The survey indicated that one quarter of the respondents received no specific training in the area of suicide, and that a majority of the respondents had acquired whatever knowledge they had through voluntary study.

In general, respondents raised the following issues:

1. At the undergraduate level, training programs for health care professionals should include at least one "core course" on suicide prevention, as well as other educational opportunities in order that there be a minimal level of competence in suicide-related skills such as the assessment of suicide risk.
2. The teaching of clinical skills required in dealing with the suicidal individual should be an integral part of graduate education and field training for all relevant professionals, para-professionals and gatekeepers. As part of clinical training, the ethical considerations in working with high-risk individuals should be emphasized, outlining the limits of power and responsibilities of the helper, as well as the appropriate procedures to follow in the event of a completed suicide.

(ii) Gatekeepers (Clergy, Police, Custodial Officers and School Personnel)

(a) Clergy

The clergy play a key gatekeeping role in suicide prevention. Suicidal individuals often feel less threatened by clergy than other professionals, frequently approaching them for guidance in times of distress. Thus, it is important that all clergy be knowledgeable and trained to effectively deal with the suicidal individual and be prepared to face the difficult task of counselling the families of the bereaved.

The Task Force's review of the core curriculum content of several schools of theology and ministerial training centres established that there was minimal concentration on education and training in the area of suicide. In general, exposure to the area of suicide and bereavement occurred either indirectly, through courses on the subject of death and dying, or through field placements where the student would be directly involved in aspects of suicide prevention.

(b) Police

Police are often frontline workers in situations involving individuals suffering from severe emotional or mental distress, some of whom may be suicidal. Training and orientation requires the police officer to bring aberrant behaviour under control as quickly and effectively as possible, using whatever means are necessary. Peck points to the need for specialized training in dealing with the suicidal individual:

> Since emotionally disturbed and suicidal persons often do not respond in the same predictable way that the typical subject handled by law enforcement does, he (the police officer) experiences much less success in making an efficient disposition of these cases when using traditional police techniques (Peck, 1969).

With the decriminalization of attempted suicide in Canada in 1972, there has been a change in the attitudes of the police towards the handling of suicidal individuals. Many admit that these situations are considered to be a low priority, seeing their involvement as primarily "keeping the peace" or "social work", rather than enforcing the law. Nevertheless, they are frequently called upon for assistance since they are empowered under Provincial Mental Health Acts to convey people suffering from a mental health crisis to a psychiatric facility. Many police officers feel uncomfortable exercising this authority, given their lack of expertise in dealing with mental health problems.

The Ontario Provincial Police training manual on suicide (1981) states that:

> . . . police are very much involved where suicide or attempted suicide is a subject of concern. These crisis situations require thorough investigation and sometimes drastic intervention. They may also involve threats to the lives of others and subsequent court hearings.

The Ontario Provincial Police force has emphasized the requirement for specialized education and training programs for the police to ensure effective management of the suicidal individual, as well as the bereaved. Some police departments have taken steps to improve the qualifications of personnel who deal with particular crises. In some jurisdictions, there are now compulsory training programs in human relations and crisis intervention. These programs cover such topics as: securing the safety of the suicidal individual; assessment of immediate suicidal risk; improved communication techniques; Mental Health Act policy requirements regarding the role of the police in a suicide crisis; and appropriate referral procedures to community mental health and social service agencies. In addition, due to the large volume of suicide calls to the police, there has been considerable upgrading and reorganization of internal resources to respond more effectively.

In London, Ontario, a special program involving the collaborative efforts of police and community health agencies has been implemented. The Ontario Council of Health makes reference to this model:

> The Family Consultant Service developed jointly by the London, Ontario, Police Force and the Psychology Department of the University of Western

> Ontario is well known as a cooperative police-civilian crisis-intervention team. The service is well liked by the police because it means less time for them spent in dealing with family crises. A family is being helped and the likelihood of a repeat call thereby diminished. Feedback to the referring officer is an integral part of the service, enabling him to see the continuity of events. Prior to the introduction of the Family Consultant Programme, only 27.5% of the officers made use of the social service agencies; presently 88% regularly refer cases to the Family Consultants (Ontario Council of Health, 1979).

The larger urban police departments have also developed specialized emergency divisions resembling the American S.W.A.T. teams. The training programs for these specialized units include courses in hostage negotiation, involving highly sophisticated counselling and negotiation techniques to be used with individuals who are usually in possession of lethal weapons, and often at risk to suicide.

The Royal Canadian Mounted Police address the issue of training in suicide prevention during two compulsory 75-hour sessions included in their basic recruit-training program. Entitled "Applied Human Behaviour and Police Intervention" and "Prisoners and Mental Patients", the latter session teaches the officer special skills required for the care and handling of prisoners and mental patients.

It should be noted that while police forces frequently deal with suicidal individuals, they themselves are at risk to suicide. Indeed, there has been a steady increase in suicidal behaviour amongst police officers. The Task Force discovered that eight Montreal and three Toronto police officers committed suicide between 1981 and 1984 and suggested that others may have gone unreported. This problem could be addressed through educational programs on suicide. Peck provides an explanation for this disturbing phenomenon:

> Contrary to popular belief, most officers are not fearless or death defying. They have concerns and fears about being in dangerous and unpredictable situations as do most persons. They frequently, however, tend to disguise and deny this fear and many officers experience severe neurotic anxiety related to their fears. A possible concomitant of this stressful, anxiety-producing life on the one hand and the need for denial on the other is the fact that the suicide rate among police officers in general is higher than most occupational groups (Peck, 1969).

(c) Custodial Personnel

Among correctional staff, there is a clear recognition of the suicide problem, and it is axiomatic throughout the Correctional Service of Canada that every suicidal gesture be taken seriously. A training film has been produced by the National Film Board in conjunction with the CSC entitled "I Was Dying Anyway – Signs of Suicide". Additional material in the form of a trainer's manual, with prepared worksheets and handouts accompanies the film to comprise a training session of four to five hours.

Since the main CSC study published in August 1981, emphasis has been placed on full staff involvement in suicide-prevention training and national programs have been developed in consultation with psychologists and medical staff to familiarize institutional staff with the critical indicators of potential self-inflictors or suicides. Indeed, by December 1984, 1,000 CSC staff went through a program of suicide prevention training developed by mental health professionals from Alberta.

(d) School Personnel

As a result of close day-to-day contact, teachers, guidance counsellors and other school personnel have a direct and powerful influence on the lives of potentially suicidal students. Students in distress frequently present teachers or guidance counsellors with overt suicidal ideation, or indirect indications through suicidal themes in their written assignments. Given the appropriate attitudes and level of expertise, school personnel could play a vital role in the prevention of suicide.

In general, teachers express unease in dealing with the suicidal student, not wanting to explicitly discuss suicide with the individual (Ross, 1980). This reluctance to accept suicide as a possibility must be replaced by a willingness to discuss suicidal thoughts with the student, a crucial step in the prevention of suicidal behaviour.

Throughout Canada, several boards of education recognize the requirement to provide teachers with education and training programs in order to familiarize them with the symptoms of depression and the extent to which they relate to potential suicidal behaviour. It has also been suggested that programs focus on developing appropriate levels of expertise in the detection, assessment and response to suicidal behaviour, as well as the proper referral procedures to follow when mental health and psychiatric agencies are required. The general orientation of the education and training programs should make teachers comfortable with the management of the suicidal student without inducing a feeling of total responsibility.

The proposed Quebec educational program for school personnel and students developed by Plamondon and Dionne (1977) could serve as a useful model for further program development. It provides some simple steps which may assist in the detection of suicide risk, assessment and prevention (Appendix 5). The curriculum module on suicide developed and soon to be field tested by the Hamilton Board of Education is another good model.

The Task Force proposes that information and training programs be exercised at two levels: provincially, techniques in suicide risk assessment and detection should be integrated into the core curriculum of teacher education; and locally, as part of the programs for professional development in order to inform teachers of the accepted policies and procedures of their governing boards relating to suicide, and methods of utilizing available referral agencies within the community (See Appendix 10 for model program).

Recommendation #5. Governmental assistance should be provided (e.g. to universities and community colleges) for education and training programs, to be provided on an inter-disciplinary basis for the various service disciplines (e.g. health care professionals and gatekeepers) in order to improve their expertise in dealing with suicidal individuals.

Recommendation #6. In recognition of the unique set of problems inherent in the custodial and correctional services, workshops for suicide-prevention training should be implemented for all custodial officers and for the police who are employed in presentencing custodial facilities in all jurisdictions.

Recommendation #7. Discipline, or group-specific issues and concerns related to suicide, should be addressed through additional training materials developed at the initiative of the group involved (e.g. physicians, clergy, teachers).

Recommendation #8. Teachers should be informed, either through initial training or professional development, of techniques in the detection and assessment of suicidal risk in students, and of the available counselling services in the community.

B. INTERVENTION

Intervention strategies and services are aimed at intercepting the suicidal process among those who express suicidal ideation and threats or engage in intentional self-destructive behaviour. Reference to the written objectives of the Task Force will reveal an intention to "focus on evaluative studies of actual programs." In fact, this proved not to be possible as very few Canadian suicide prevention/intervention programs have been subjected to any kind of formal review procedure. Evaluative studies, where they had been done, proved to be either: (1) methodologically inadequate or (2) based on systems of data collection which could not be compared across services due to differences in behavioural definitions, selection/measure of variables and the outcome measures chosen. Unfortunately, the Task Force did not have the funding necessary to commission independent evaluative studies. Therefore, when reference is made to "model programs", the models have been chosen because of such "common sense" factors as good community acceptance, high levels of apparent consumer satisfaction and well established, positive "track records" with other agencies within the various systems of response.

Systems considered to be responsible for providing intervention services are the medical and mental health system and the social service system. In addition, gatekeeper groups play a 'de facto' intervention role.

1. The Medical and Mental Health System

Professionals in the medical and mental health system, who most frequently deal with suicidal individuals, consist largely of mental health workers – psychiatrists, psychologists, psychiatric social workers, psychiatric nurses and suicidologists. These professionals are widely recognized as the most skillful in detecting and managing the "at risk" individual by virtue of their expertise in dealing with severe depression, psychotic conditions and other behavioural disorders frequently associated with risk to suicide. Suicidologists, in particular, have extensive training in risk assessment and management. In addition, family physicians, public health nurses and coroners provide medical services and less frequently, intervention services to suicidal persons.

The number of suicidal individuals treated in the medical and mental health system is not known. Suicidal behaviour is usually not coded as the primary problem upon entry into hospital. Indeed, it may not even be recognized in the official medical/mental health systems of diagnostic classification used by a particular hospital or service. However, all practitioners in the field of mental health are working to a greater or lesser degree with potentially suicidal patients, a fact which should be reflected in the training and professional preparation of the various disciplines involved.

Specialized services for suicide intervention services have been developed primarily in large urban centres, often as a result of efforts by a single health care professional who has convinced local authorities of the need for such a service. These programs are widely regarded as innovative, and have often attracted a dedicated, high-quality staff. The following hospital-based programs should serve as models for evaluative and research purposes: S.H.A.R.E. at the Toronto General Hospital, S.A.F.E.R. in Vancouver; The Crisis Intervention Unit at Toronto East General Hospital; and the Liaison Unit at St. Joseph's Hospital, Hamilton (Appendix 6).

(i) Hospital-based Services

Persons who have attempted suicide are at high risk to subsequent suicidal behaviour. Those who enter hospital provide a good opportunity for intervention, in that they are identifiable and available for direct care and treatment.

(a) Emergency-ward Treatment

Most people hospitalized for self-injury are initially treated in a general hospital's emergency department. A general hospital with a psychiatric unit should be prepared, therefore, to provide emergency psychiatric service. In fact, a general hospital is perhaps the best facility for treatment of self-injuries because it can provide medical and surgical services, as well as the psychiatric skills needed to conduct a thorough assessment and management of the patient.

Studies of general hospitals' emergency wards' admissions have reported that between 2.5 per cent (Watson, 1969) and 30 per cent (Silbert, 1964) of the total patient population are psychiatric cases. One study showed that 10 per cent of the psychiatric emergency contacts at a general hospital were patients exhibiting some form of suicidal behaviour, having attempted suicide, threatened suicide, or expressed suicidal ideation at the time of admission (Syer-Solursh and Streiner, 1985).

The Task Force found that Canadian hospitals lack established standards of care for suicidal patients in emergency wards; that there are only a few preliminary protocols in existence and that research in the area is practically non-existent. Suicidal patients in general hospitals' emergency wards are frequently treated exclusively in terms of the medical aspects of their condition. If the threat to life is of sufficient magnitude, medical attention will be immediately provided. If, however, the self-injury is not considered to be even potentially lethal or, worse still, a mere "gesture", then the treatment of the patient may assume a very different form. A great many patients whose suicidal behaviour is not judged to be truly life-threatening are discharged from the emergency ward with no follow-up. A general practitioner is usually assigned to the patient in the Emergency Ward, who in most cases independently decides whether a consultation from the department of psychiatry is necessary. Factors influencing this decision include the on-site availability of a psychiatrist or psychiatric resident, the number of "genuine" medical emergencies competing for the doctor's attention and the doctor's personal attitude towards psychiatric patients in general, and suicidal patients specifically.

Effective treatment of the suicidal person should begin as soon as possible following the suicide attempt, ideally in the hospital's emergency ward immediately upon the individual's recovery of consciousness. There are at least two reasons why this is necessary. First, having survived the suicide attempt, the individual is faced with a whole new set of circumstances; the emotional tension that built up to the suicidal attempt has dissipated with this action. Further, the individual has been physically transferred from the scene of his suicidal behaviour to the emergency ward. As Pretzel points out:

> . . . this type of change has the effect of breaking the pattern of the patient's self-destructive thinking. He is at a point of decision, and may ask himself the significant question, 'where do I go from here?' Left to his own devices, the suicidal patient may resume the patterns of thought that led up to his suicide attempt. This period is therefore the most important time for effective therapeutic intervention, that is, for the presentation of the idea that alternatives to suicide exist. A second consideration is the vulnerability of a patient immediately following a suicide attempt. With no clear plan of action, and without time to re-erect his defensive barriers, the suicidal patient is likely to be more responsive than usual to a 'friend'. A person who can be trusted and who relates on a 'human level' is most valuable and effective as an agent of change at this time (Pretzel, 1972).

Emergency medical staff have been found to be usually less effective as agents of change than members of a psychiatric emergency team or crisis service acting as consultants to a medical team. Several Canadian hospitals have explored the use of a multi-disciplinary crisis- or suicide-intervention team. One service has introduced trained lay-volunteers or para-professionals as members of the emergency team (Syer-Solursh and Streiner, 1985). Voineskos describes an effective multi-disciplinary team:

> A medico-psycho-social team . . . consisting of staff of different disciplines or, at least, of a psychiatrist, a social worker and a nurse. This team is the fundamental working unit of a psychiatric emergency service, particularly a crisis intervention oriented service. The members of this team can complement one another's talents and professional skills (Voineskos, 1975).

An evaluation of a single-session crisis service conducted by para-professionals in

the emergency room of a community hospital demonstrated that timely intervention by para-professionals had long-lasting results in specific problem areas. Crisis counsellors in this study were described as "helpful" or "very helpful" by 81 per cent of the clients who had approached them for assistance in dealing with various problems including suicide proneness (Getz et al., 1975).

A review of studies evaluating the efficiency of professionals, other than psychiatrists, trained to assess suicidal patients has indicated that these professionals (nurses, social workers and physicians) are as competent as psychiatrists in implementing techniques for suicide intervention (Black and Pond, 1980). Nevertheless, with regard to issues of medico-legal responsibility, it is essential that psychiatric back-up services be provided.

An effective team should have a sufficient number of members to provide around-the-clock, seven-days-a-week coverage of the emergency ward, and should be based either in or near the emergency ward itself.

In psychiatric emergencies, particularly those involving suicide, time is a significant factor. Voineskos explains:

> Brevity is essential. The here-and-now urgency of crisis is the limit which orders and directs all therapeutic activities. All aspects of treatment, such as assessment, intervention and termination, must take place within a limited time period (Voineskos, 1975).

In support of this view, the American Psychiatric Association et al. (1978) recommended that "no psychiatric patient should be detained in an emergency care setting for longer than eighteen hours." To use the available time most effectively, the initial contact interview with the patient in the emergency ward should be used to obtain as much information as possible to define the problem(s), determine the desired outcome, and establish some potential avenues of treatment. Family members and other available persons involved in the crisis (e.g. police, friends) should be interviewed, preferably away from the patient. Because severely disturbed or violent behaviour is a factor in many suicide-related emergencies, the initial assessment is often best carried out in an area of the emergency ward where temporary seclusion or even restraint is possible.

The APA et al. Report (1978) further recommended that written protocols be available for "expected categories of problems which the clientele will present", and stated that emergency care would be more effective if consideration is given to "the ethnic groups and spoken languages of the community being served." In addition, a standardized record-keeping system was called for, to include the psychological aspect of each case.

Task Force members concur that the implementation of these procedures in Canada is worthy of consideration.

Many factors influence the disposition chosen for a suicidal emergency patient. Surprisingly, numerous studies have shown that the initial diagnosis is not the most significant of these factors; various aspects of subsequent behavioural management are more important. For example, the demands of family members (Schwartz and Field, 1969) and language problems, which influence perceived dangerousness (Baxter et al., 1968) have been found to be significant determinants of disposition. In view of these factors, it is suggested that standard criteria be developed providing guidelines for appropriate hospital admission.

The establishment of a "holding unit" or short-term in-patient service would allow for a more thorough assessment, if required, and could act as an intermediate stage between the emergency intervention and follow-up arrangements with other services within the hospital or with a community agency.

Recommendation #9. An immediate assessment by suitably trained personnel should be requested for every potentially suicidal individual entering the emergency wards of general hospitals.

Recommendation #10. Where the resources exist, a psychiatric emergency staff which is multidisciplinary in nature should be established, and the involvement of trained volunteer staff should be considered.

Recommendation #11. The psychiatric emergency team should be encouraged to communicate effectively with other mental health and social services in the community, as well as with the police and crisis centres.

Recommendation #12. A suicidal individual hospitalized as an in-patient in a medical or surgical unit should be assessed by suitably trained staff as soon as possible after admission.

(b) Psychiatric In- and Out-patient Services

In general, professionals working in psychiatric in-patient and out-patients units identify three phases in the management of suicidal patients; the acute, treatment and recovery phases.

The acute phase refers to the period of the suicidal crisis in which the patient is at maximum risk. At this stage, a psychiatric assessment establishing the degree of immediate risk should be made as soon as possible. The dangerous and sometimes explosive nature of the situation demands provision for the security and protection of the individual.

The treatment phase marks the beginning of the adjustment period in which alternative behaviours other than suicide become possible. This period provides an opportunity for the professional to set treatment goals and develop therapeutic strategies.

The recovery phase refers to the final stage of therapy in which the patient may acquire the skills necessary to cope with the many stresses that initially contributed to the suicidal behaviour.

Out-patient Services

If the degree of suicidal risk is assessed as being manageable, and the necessary support systems are in place, such as family and friends, the suicidal patient is referred to out-patient services for follow-up. Unfortunately, there is considerable evidence of poor compliance among suicidal individuals referred to out-patient services. For example, a drop-out rate of approximately 50 per cent has been reported (Kreitman, 1977).

The British Office of Health Economics has suggested that poor compliance may be a result of "the stigma attached to the attendance of a psychiatric out-patient clinic," or that "patients prefer to be seen by the same psychiatrist at the out-patient clinic as during the hospital admission" (Office of Health Economics, 1981).

It has been suggested that the following strategies be employed to improve the compliance of suicidal out-patients:

- discussion and negotiation of referral should take place during the initial interview;
- specificity of appointment and source of referral should be imperative;
- a minimal waiting period before the initial appointment should be encouraged;
- systematic evaluation of the successful outcome of referrals should be ongoing;
- consistent management of suicidal patients could be exercised through effective communication between the agencies involved; and
- recontacting patients after an initial interview could act as a reminder or provide for rescheduling.

All of the above could be equally applicable in the emergency ward setting.

In-patient Services

If the suicide risk is assessed as being high, referral is made to in-patient services where precautionary measures are taken. Extended in-patient hospitalization may not be necessary. In-patient crisis intervention services typically keep suicidal patients for a period of three to five days to meet the following objectives:

- complete the assessment in cases which could not be thoroughly assessed in the emergency department;
- stabilize the person's condition so that the therapeutic process can begin, through the use of medication or other forms of physical intervention;
- temporarily remove a vulnerable individual from a highly stressful and deteriorating home situation;
- complete all the necessary arrangements whenever there is a requirement for longer term in-patient service or other type of residential treatment.

- involve, when possible, the members of the family, close friends, the family doctor, and anyone who may provide additional information which may clarify the suicidal event;
- make arrangements for the follow-up treatment plan for the patient.

There is, of course, no guarantee of the absolute prevention of suicide in any patient. Suicide rates have been shown to be higher in current and former psychiatric patients: 1.6 and 2.4 times higher, for currently hospitalized males and females, respectively, than in the general population and 3.7 and 8.5 times higher for former patients than in the general population. The greatest risk and increase in rate of suicide appears to be in patients with diagnosed depressive psychoses. In general, studies have shown that the suicide rate in psychiatric patients ranges from 99 per 100,000 to 380 per 100,000 compared to 12 per 100,000 in the general population, with highest incidence of suicide being in the 45-54-year age group (Wilson, 1968; Achté et al., 1966).

Research has also demonstrated that in-patients who have been originally assessed as being at high risk to suicide as a result of a previous history of suicidal behaviour and clear communication of suicidal intent make few suicide attempts and rarely commit suicide while in hospital. The following have been identified as common psychosocial characteristics of this type of patient:

- fairly adequate planning ability;
- positive interpersonal behaviour;
- low energy level; and
- tendency towards passivity.

In-patients who commit suicide while in hospital were found to share the following set of characteristics:

- frequently diagnosed as schizophrenic or chronically ill;
- no apparent indications of intention to commit suicide at time of admission;
- high energy level;
- chaotic in nature;
- inability to plan;
- lack of internal moral sanctions against suicide;
- depressed mood;
- socially isolated;
- resistant to treatment;
- lack of therapeutic personal relations;
- possess glorifying ideas of death; and
- view suffering as defining their affective life experience.

In general, 50 per cent of the individuals who committed suicide in hospital were found to have made several suicide attempts while in hospital prior to their deaths; however 33 per cent showed no evidence of suicidal behaviour. In addition, only 33 per cent were engaged in therapeutic personal relations (Chapman, 1965; Levy and Southcomb, 1953).

There have been very few systematic, long-term prospective follow-up studies evaluating the benefits of the various therapeutic techniques used with suicidal individuals in in-patient crisis services. However, one controlled study of groups randomly assigned to "follow-up research" and "normal" treatment programs reported a significant reduction in both suicide attempts and excessive use of alcohol and a non-significant reduction in drug abuse in the "follow-up research" treatment group. The objective of this experimental follow-up program was to encourage frequent contact with the patient following discharge from hospital, whereas the "normal" treatment program exercised no follow-up procedures (Wela, 1977). These findings suggest the requirement for more extensive follow-up treatment procedures which deal with suicidal individuals from hospital-based psychiatric services.

The identification of the determinants of suicide in discharged psychiatric patients is a more complex task. Research suggests that there is a different set of factors which influence discharged psychiatric patients or in-patients on authorized leave to commit suicide; these stem from the pre-hospitalization environment. This conclusion is based on the observation that patients found to be actively suicidal at the time of admission usually responded most rapidly and effectively to treatment, and that any suicidal behaviour displayed by them while on leave could only be explained by their return to a previous, unsupportive and stressful environment (Biesser and Blanchette, 1961). On the basis of these findings, serious consideration should be given to the following factors which identify individuals at risk to suicide while on leave from hospital:

- history of a previous suicide attempt at least six months prior to admission;
- active or potential suicidal behaviour during hospitalization; and
- departure for the first or second time to an unchanged negative environment.

The results of one study indicate that suicide among psychiatric patients on extended leave is a prevalent phenomenon with a reported incidence of 177 per 100,000 in the study population. This study identified the following factors which differentiated the in-patients who committed suicide from the non-suicidal ones:

- poor physical health in the 6 months prior to death;
- real, threatened or imagined loss in the 6 months prior;
- a history of suicidal threats;
- a history of suicide attempts; and
- a trend towards shorter length of stay in hospital (Bolin et al., 1968).

The high rate of suicide in the general discharged psychiatric population, significantly higher than in the general psychiatric in-patient population, has prompted considerable research in the area. Studies have estimated that 3.1 per cent of male and 1.5 per cent of female psychiatric in-patients may commit suicide, but that the incidence of suicide among ex-patients is 4 and 9 times higher respectively (James and Levin, 1964). Discharged patients with a previous diagnosis of alcoholism, affective psychosis, depressive neurosis and schizophrenia have been found to be at particular high risk to suicide. In addition the proportion of male to female suicides among discharged patients was found to be equal, which is contrary to the male/female suicide ratio of 3 to 1 in the general population (Kraft and Babigian, 1976). It has also been reported that former patients who commit suicide are more frequently characterized by violent behaviour, previous deliberate self-harm, broken marriages through death, separation or divorce than are non-suicidal former patients (Myers and Neal, 1978).

Response on the Ward

The philosophy of management of the suicidal patient is brought into focus once a suicide or suicide attempt takes place on the ward. On an open ward, it indicates a paradox in the treatment approach. On the one hand, the ward milieu stresses interpersonal relationships and individual responsibilities, and on the other hand, precautions against suicide stress physical-environmental issues and limited individual responsibilities.

The efficacy of the traditional safeguards such as sedation, restraint and seclusion is questionable. It has been hypothesized that these established procedures are often followed to protect the hospital and the staff against criticism and possible litigation, rather than for the benefit of the patient.

Ideally, the approach to precautions should encourage the development of one-to-one relationships through formal or informal individual, marital and family therapy sessions. Both staff and patients should be encouraged to reach out to the suicidal patient to exert the therapeutic power of interpersonal relationships which has been shown to be unmatched by any other measure. Precautionary measures which promote constant supervision and stereotyped and shallow attitudes tend to increase the anxiety level of both the staff and patients, whereas an approach which favours the development of interpersonal relationships, communication and a therapy aimed at dealing with conflicts, has a more positive outcome.

Farberow suggests a set of guidelines for what has popularly been referred to as "suicide-proofing" a hospital. He identifies factors relating to:

- risk identification (e.g., "watch for suspect behaviour" such as saving medication);
- safeguards (e.g., install safety glass in windows and breakaway shower curtain rods and block access to the roof);
- communication relating to documentation and consultation; and
- attitudes (e.g. "avoid harsh, repressive measures") (Farberow, 1981).

As noted above, Task Force members agree that it is not possible to completely "suicide-proof" any service. The best that can be achieved is to minimize the likelihood of a suicide.

(c) Outreach

In addition to their function as receiving centres, the emergency departments of large urban general hospitals should have outreach programs. Examples include public education, a twenty-four hour telephone service and a mobile crisis team (See Appendix 6).

(i) The public gatekeepers and the staff members of community mental health and social service agencies should be aware of the services provided by the local hospital's emergency ward. An effort should be made to inform these health care workers of the types of crisis situations which are appropriate for emergency ward services, as well as the various resources which could assist in the improvement of education and training in the areas of detection and assessment of suicide risk.

(ii) The emergency ward should have a twenty-four hour telephone service staffed by mental health professionals or trained volunteer workers who are backed up by a psychiatrist. The telephone workers should be trained to handle calls involving suicide, situational crises, rape, drug or alcohol abuse and other types of crises. As an alternative to setting up its own telephone service, the hospital can set up liaison with, or formal medical/psychiatric back-up to, community-based telephone crisis centres.

(iii) A mobile team of trained crisis workers who can go to the scene of a suicide call is recommended by several researchers (Bartolucci and Dryer, 1973; Resnik and Hathorne, 1973; and Voineskos, 1975). Ideally, such a team should be multi-disciplinary in nature, consisting of volunteer workers and an emergency specialist such as a psychiatrist employed either as a member of the team or as a back-up. Resnik and Hathorne explain:

> The team would work closely with the police and would be trained to appropriately assess the situation; arrive at a determination of what needs to be done; and either respond accordingly or effect an appropriate disposition (Resnik and Hathorne, 1973).

(d) Beyond the Urban Centre

This description of emergency services presupposes the structure of a large urban-based general hospital with sophisticated facilities and an adequate number of available professional and volunteer staff. This model is obviously not applicable to many small Canadian communities. However, it is difficult to develop an alternative model which can be easily adapted to the wide range of community response capacities of various small general hospitals and mental health clinics, or the facilities of remote and sparsely populated northern areas.

The ability of a particular community to respond to a crisis situation is determined by the type of service system in place as well as the availability of resource people (e.g. general practitioners, clergy). The response capacity may be enhanced by an accessible network of supervisors or back-up professionals who are qualified in suicide risk assessment and can provide emergency consultation to front-line workers. Furthermore, an established system of communication between the various health services would ensure efficient and immediate referral of an emergency patient for case management or follow-up treatment.

Task Force members propose that the following organizational strategies would be conducive to the development of efficient psychiatric emergency response capacities in smaller communities:

Emergency Response Planning – This would develop policies and procedures for the handling of high-risk psychiatric patients, addressing such issues as the identification of the available informal network of traditional "helpers" and nearest medical or psychiatric facility, as well as methods of accessing available on-call staff after hours and transportation requirements.

Training – Given the general lack of qualified personnel such as psychiatrists, arrangements should be made for the education and training of some of the available health professionals or gatekeepers to acquire expertise in the assessment of suicidal individuals. For example, Catalan and his colleagues suggest:

> . . . a clinical service . . . could be implemented in (smaller) district general hospitals by training two or three nurses to carry out the assessments of patients following self-poisoning. The nurse would then liaise with a senior psychiatrist who would provide both supervision and the back-up service of specialized treatment (Catalan et al., 1980).

Cooperative Services – There are a number of models of mental health service available in smaller communities and rural areas. For example, the four Western provinces have developed a sophisticated system of community mental health clinics, permanent facilities of varying size, which operate within a cooperative service network. In other areas of the country, large psychiatric units have established small satellite programs. Staff from the larger facility spend time in one or more of the satellites. A third system is that of the mobile team or travelling clinic which visits a number of communities on a set schedule.

A variation of this third model, a mobile crisis team, was recommended by the Ontario Medical Association for areas of the province which lacked direct access to either an emergency psychiatric service based in a general hospital or a psychiatric facility. The following explanation was given:

> Most of the communities in Ontario would not have a large enough population to support a regular crisis team, but a regionally based consultation group available to provide assistance should be considered. This team would be based in one community and be available to several communities in a region (Ontario Medical Association, 1978).

2. The Social Service System

Professionals and volunteers working in the areas of public health, social service and crisis intervention also provide suicide intervention services (see Appendix 7).

(i) Community-based Services

Suicidal persons who seek help from community-based services often present complaints relating to legal problems, unemployment, welfare "hassles", loneliness or isolation. Exhibited suicidal behaviour usually includes suicidal ideation, threats or gestures involving less lethal means, actions which do not require immediate medical attention.

The Task Force found that most community-based social service agencies do not recognize suicide intervention as one of their primary objectives, and that most efforts are fragmented, poorly organized and generally inadequate. There was also evidence of inadequate training of staff members in suicide or crisis intervention, and a general reluctance of professional staff to recognize and utilize the expertise of volunteer crisis centre workers, or to provide back-up support for their own volunteer staff. A team approach to suicide intervention was found to be non-existent.

The Task Force also found that very few social service agencies had guidelines for the internal treatment of suicidal individuals, thereby frequently referring them to other agencies. Record keeping was found to be inconsistent and inadequate in terms of the documentation of suicide cases and for the collection of data required for successful follow-up and referral. These findings are supported by a Council of Suicide Prevention survey of 152 Toronto social services (Syer-Solursh, 1977). Boldt provides further support in his examination of community-based suicide intervention services in Alberta:

> The current situation is one where suicidal persons are distributed by self-referral or agency referral across a wide spectrum of help-giving services. No agency sees enough cases to make suicide a concern of sufficient priority to establish an adequate competence in dealing with it. Most agencies have very little experience with suicide or self-injury. Very few have staff with significant training in dealing with these problems, and little information is being disseminated to those who are in a position to apply it. Some agency staff feel so unqualified and unsure about dealing with suicide and self-injury that they immediately refer suicidal people to other agencies, then withdraw from the case. The referral is made to be rid of the

problem, not because the agency has confidence that the referral destination will be able to help the suicidal person. Usually, the referral destination also is unqualified and unsure. Such "passing the buck" leaves the help-seeking person without support when he needs it most (Boldt, 1976).

A very limited number of intervention services are provided in smaller communities or rural areas, although such suicide prevention programs have been recently developed for social service personnel and gatekeepers in Alberta. In places where these services have not been developed, telephone crisis centres frequently include suicide intervention as part of their service.

Crisis Centres

There are now several hundred crisis/suicide intervention services in North America, with 99 such centres in Canada. Powicke describes the rationale for this development:

> They came into being because of a strongly felt need for immediately available, accessible, and appropriate help for people under stress, particularly those whose needs were not being met by the resources of existing agencies, or whose distress peaked in the hours after these agencies closed . . . (Powicke, 1976).

Most Canadian centres are incorporated in the province in which they are situated. The majority belong to provincial or regional associations which provide an opportunity to improve communication between centres on matters of mutual concern, such as volunteer recruitment and training, and to evaluate existing standards and performance. A number of centres have joined the Canadian Council for Crisis Centres, formed in 1978, to pursue these and other objectives on a national level.

The federal government's Department of Health and Welfare has established a policy of cooperation with the provinces to fund distress and crisis centres on a cost-sharing, dollar-for-dollar basis. The four western provinces have implemented this legislation in order to provide provincial funding to most centres within their jurisdictions.

Services Provided

The majority of community-based suicide intervention services adhere to the Crisis-Intervention Model (Appendix 10) and de-emphasize the provision of professional service, focusing instead on "helping" or "befriending" through the use of volunteers (Appendix 7). The following are some of the common characteristics of crisis-intervention centres which adhere to this philosophy:

- emphasis on immediate emotional support in crisis situations;
- major reliance on telephone services, with the objective of providing 24-hour coverage;
- in most cases, guaranteed anonymity of both caller and volunteer;
- undisclosed location except in the case of drop-in centres;
- require that the client independently seek assistance; and
- avoidance of prolonged specialized care.

Responsibility for the screening and training of volunteers lies with the individual centre. The type and degree of training varies with each centre, and depends on the type of service required in a particular region, the philosophy of the centre and the availability of expertise. One example of the training provided for volunteer workers in crisis centres is that of the Telecare Ontario Network, where there is "a minimum of 50 hours of training on topics such as listening, befriending skills, empathy, interpersonal relationships, self-knowledge, role-playing and social problems".*

Given the overlap of clients seeking help from both professional and volunteer health care workers, a comparison of the quality and type of services provided is useful. A comparative study of volunteers and mental health professionals employed at the Los Angeles Suicide Prevention Centre and London Samaritan Centre reported that volunteers rated higher on exercising warmth, patience and a less condescending attitude towards the client. However, they were found to be less successful in obtaining a complete account of the problem, often failing to collect data on past history, or to detect the presence of mental disorders other than depression, such as schizophrenia or paranoia. On the other hand, mental health professionals were found to lack warmth, understanding and kindness, but were rated higher on general interviewing skills such as: picking up important clues, challenging evasiveness and inconsistency, extracting a coherent story, discontinuing unproductive conversation and confrontation. In general, the professionals appeared to avoid the 'lay model' of human warmth, understanding and kindness; and the volunteers appeared insecure and defensive about not being professional, resulting in a reluctance to approach their task in a manner suggestive of the "medical model" (Hirsch, 1982).

Task Force members have noted that consumer evaluation of mental health services does not correlate highly with treatment outcome. Consumers gave a higher rating to people who are warm and outgoing and who take the time to listen, and a low rating to professionals, who are often opposed to encouraging dependency (Wattie, 1983).

It is unclear how much of the crisis-intervention work of telephone centres actually relates to suicide prevention; while all suicidal individuals are "in crisis", not all those in crisis are even potentially suicidal.

*Personal communication from Reverend Bill Lamb, 1980.

Most Canadian crisis centres report that 2 to 10 per cent of their clientele are identifiably "suicidal" (Tel-Aide Statistics, 1980). A survey of suicide intervention services provided in 52 Canadian centres, conducted over a three-month period in 1978, reported a low incidence of suicidal clientele; only 2.3 per cent of the total calls were suicide-related. Suicidal threats (45.0%), ideation (34.4%) and deliberate self-harm (20%) were the most common expressions of suicidal behaviour. A smaller proportion of suicidal callers were reported to have expressed homicidal ideation as well.

The study also showed that the acceptance of crisis centres by other professional and volunteer groups varied widely:

> In some areas of the country, such as the far north, the Crisis Centre appears to be viewed as an essential mental health service by the other "gatekeeper" groups of the community (e.g. police, general practitioners). They therefore tend to cooperate fully with the centre when an emergency situation, such as a suicide call, arises. In more highly populated areas, the degree of acceptance and cooperation afforded the centre by the traditional mental health/psychiatric service varies tremendously (Syer-Solursh and Scott, 1979).

Many centres have reported that they receive as many as a third to a half of their calls from "repeaters", people who frequently call the centre for assistance and support. "Repeaters" have been described as being chronically disturbed, tenuously adjusted individuals in whom the current suicidal crisis is an exacerbation of ongoing conflicts and problems (Wold, 1971). Farberow emphasizes that the chronically disturbed individual poses insurmountable difficulties for the crisis-intervention model:

> The usual techniques and procedures of crisis intervention practiced in the (telephone model) suicide prevention centre help persons who are in acute stress and who are acutely suicidal. However, there is some question whether crisis intervention procedures are effective in preventing suicide in chronically disturbed people. Crisis intervention is appropriate for suicidal patients who have had a previous period of stable adjustment, and who have fallen into disequilibrium because of acute stress (Farberow and MacKinnon, 1974).

Due to the anonymity allowed to callers, most centres reported that they had difficulty identifying "repeaters". Policies related to handling these callers depended on the philosophy of the centre. Some reported that they view the repeater as an abuser of the service, while others expressed greater tolerance of "repeaters", seeing the frequent contacts as informal, ongoing therapy. The majority of centres agreed that "repeaters" should be referred to other professional services for help.

(ii) The Requirement for Evaluation

To date there have been no Canadian studies evaluating the effectiveness of the crisis centres in suicide intervention. On the basis of several American studies, the Task Force has concluded that, although most specialists recognize the value of crisis intervention centres, there is a lack of rigorous empirical evidence of the positive impact of crisis intervention centres on overall suicide rates. The Task Force notes that the obvious difficulties in documentation of this type of service renders the evaluation of successful suicide intervention extremely difficult. For example, the guaranteed anonymity of clients, which is essential to the encouragement of individuals to call, creates a situation in which anonymous callers cannot be followed up or even identified subsequently among populations of suicide attempters and suicidal deaths. Syer-Solursh describes the problem:

> Documenting the work of crisis centres, on other than an individual basis is virtually impossible. Each centre has its own system of recording information on calls received or contacts made. Different codes, definitions and classifications are used. Furthermore, while in the majority of centres English is the language used, there are a number of French-speaking centres and some which are bilingual. The type of population served also varies, as some crisis centres are located in large urban settings, while others serve rural and sparsely settled areas (Syer-Solursh and Scott, 1979).

An additional difficulty is the extent of coverage provided by these facilities, since a crisis centre can have a substantial effect on the community only if a large enough number of suicidal people contact the service. It is unclear whether such centres actually reach a high-risk group, or mainly low-risk individuals who are appealing for help. This question has been addressed in a follow-up study in England which showed that the identifiable clientele of five Samaritan branches had 13 times the rate of completed suicides as the general population of comparable age and sex. The Samaritans, it seems, were being contacted by high-risk people, but only by a small proportion of those at the greatest risk (Barraclough and Shea, 1970).

A review of various standards manuals and documents showed a general inconsistency in the accepted operational standards of crisis centres (e.g. A.A.S. Manual; Alberta Task Force Report, 1976; Minimum Standards, Life Line International; Samaritans' branch assessment data). Based on this review, the Task Force concluded that standards which are too rigid will discourage the development and certification of new centres. Standards which are too lenient, on the other hand, will lead to acceptance of inadequately organized centres and improperly or insufficiently trained volunteers. Improved communication, cooperation and liaison between various professional and volunteer groups dealing with crisis and suicide intervention in a given geographical area would improve service and raise standards.

Recommendation #13. If possible, the Canadian Council of Crisis Centres should review existing standards and performance and develop guidelines for Canadian Centres, instituting a system of evaluation and accreditation for the centres.

Recommendation #14. Evaluation studies of Canadian crisis centres should be undertaken to determine the nature, course and effect of services provided.

3. Gatekeepers

Gatekeepers, commonly made up of police, clergy and school personnel, play a key role in suicide intervention, given that they are frequently the first to be contacted by a suicidal individual or the individual's family. Gatekeepers generally display a lack of formal training and education in essential suicide intervention techniques. The level of the gatekeepers' expertise and training in the area of suicide and how it relates to the intervention services required of them is discussed in a previous section. As with the other systems of response, there is a lack of standardized documentation of suicidal cases, yielding little data useful for study by researchers or epidemiologists.

4. Conclusion

There is obviously some overlap between the intervention services provided by gatekeepers and the medical and mental health and social service systems of response. Health care workers in all three systems of intervention vary in their skills in detection and management of suicidal individuals, yet all workers should be encouraged to improve the intervention, either through additional training or utilization of existing expertise in the area. Improved communication, cooperation and liaison between all systems of intervention should be a priority.

C. POSTVENTION

As previously mentioned, postvention refers primarily to measures taken following a completed suicide. Postventive strategies are aimed not only at reducing the trauma of the bereaved (See Section V.7) but also at performing psychological autopsies to reconstruct the events leading to the suicide, thereby obtaining data relevant to certification, insurance and research. The psychological autopsy attempts to provide clarification regarding the nature of death, by way of a socio-psychological analysis of the victim's life immediately prior to death.

1. The Psychological Autopsy and Certification Process

In cases of unnatural death, certifying officials are responsible for determining the cause and manner of death, yet frequently the manner of death is not clear, and considerable difficulty exists with determining intent. In the case of equivocal death, a psychological autopsy could be of assistance to the certifying official in deciding the most probable manner of death. The psychological autopsy is a thorough investigation of the attitudes of the deceased with respect to his or her death. Conclusions are based on information gathered from individuals who were well acquainted with the deceased's behaviour, life situation and character.

Originally, the primary purpose of the psychological autopsy was to clarify the manner of death (Curphy, 1967); the term has since taken on a broader meaning, addressing the following questions:

(a) Why did the individual die? When the manner of death is clearly suicide, the autopsy can assist in determining the reason for the act by reconstructing the apparent motivation of the deceased, his or her attitudes towards the life and death of himself and others, and the crisis preceding death.

(b) How did the individual die, and why at that particular time? When an individual had been dying slowly over a period of time, the psychological autopsy may illuminate the socio-psychological reasons for the death at that particular time. The assumption is that there is often a connection between the psychological state of the individual and the time of death, even though such a connection may be difficult to establish.

(c) What is the most probable manner of death? When the cause of death can be clearly established but the manner of death remains equivocal, the psychological autopsy can assist in establishing the former with greater accuracy.

In general, psychological autopsies should be conducted in conjunction with other ongoing investigations and with the consent of the family. Data are gathered from "significant others", usually through telephone interviews or direct meetings, preferably in the home setting. Typically, the individuals interviewed are in an acute state of grief, frequently accompanied by associated feelings of guilt and depression. For this reason, a psychological autopsy should only be conducted by well-trained professionals who proceed with particular sensitivity to the mental state of the bereaved. The following are the significant facts which should be obtained:

(a) Identification – name, age, sex, marital status, residence, religious practices, employment status;

(b) Details of death – cause, method, time, place, rating of lethality;

(c) Personal history – medical history, psychiatric history (e.g. psychiatric hospitalizations, previous suicide attempts), family history (medical illness, psychiatric illness, deaths);

(d) Personality and behaviour profile – personality, lifestyle, typical reaction to stress, nature of interpersonal relationships, attitudes towards death (accidents, suicide or homicide), extent of everyday use of drugs and alcohol and their possible role in the death;

(e) Precipitating events – circumstances immediately preceding death, changes in routines prior to death (habits, hobbies, sexual behaviour, eating, work, etc.), incidence of positive influences in life (e.g. success, satisfaction, enjoyment, plans for the future), crises during past five years;

(f) Assessment of intentionality;

(g) Reaction of informant to the death; and

(h) Comments.

The Task Force found that the procedures for performing a psychological autopsy are much less threatening than the quasi-judicial procedures of an inquest, which have been shown to only aggravate the distress of the bereaved. Not only is the psychological autopsy viewed as less intrusive, it is also perceived as an avenue for therapeutic intervention of the bereaved. Another positive aspect of this procedure is that it can supply researchers with information regarding the role or intent of the individual in his or her death, currently not recorded by the system of certification.

It is clear that the psychological autopsy can make a significant contribution to the collection of data on suicidal behaviour. More frequent use of the autopsy would also provide important feedback to the care-giver in the mental health system, and also within the criminal justice system. Such data may be significant in the development of more effective preventive measures and programs.

Recommendation #15. Whenever properly qualified professionals are available, psychological autopsies should be performed in all cases of equivocal or causally undetermined deaths, as well as in suspected cases of suicide in psychiatric and general hospitals, prisons, community clinics and probation services.

Recommendation #16. Health care professionals should include case-management reviews in their routine investigations of all suicides where there is a recent history of psychiatric treatment.

2. Certification of Suicide and Life Insurance

The psychological autopsy could also provide significant information for resolving suicide-related insurance claims. Studies show that in the case of equivocal deaths, coroners and medical examiners are frequently subjected to undue pressure from the family of the deceased to certify the death as accidental in order to ensure receipt of insurance benefits (Syer-Solursh and Wyndowe, 1981).

It has been argued that in the absence of a specific suicide provision in a life insurance policy " . . . suicide will be a defense by the insurers to refuse to pay out the proceeds of the policy. The courts have so held since it is against public policy to permit a person to profit from his crime, that is suicide, or in any event to profit by his own intentional act which brings about the very event insured against" (Boldt, 1976).

In Canada, the following principles govern the process by which decisions are made in court cases where insurance companies use "the defence of suicide" against claims:

(a) The onus is on the defendant who pleads suicide as a defence to establish that defence;

(b) The presumption is against the intent to commit suicide, mainly because of the natural inhibition of the human being to take his own life;

(c) The standard of proof required by the Courts is the same as in all civil cases, that is, proof based on a balance of probabilities; and

(d) The absence or presence of motive is important, but it should be coupled with evidence relating to the actual circumstances of the death. It appears that the absence of motive may be a decisive factor if the circumstances of death do not indicate strongly that the plaintiff has committed suicide.

The authors of the Great West Life Report (Weighton & Lindsay, 1979) arrived at the following conclusion:

> While we (insurance companies) are prepared to accept the occurrence of suicide as one of the many hazards of life that should be properly insured against, it is also true that a death by suicide in the earlier months of a policy is an improper advantage being taken of policyholders and company shareholders, and is not an appropriate risk considering the actuarial principles underlying the construction of the insurance contract.

Members of the Task Force suggest that some consideration be given to reducing the "all or nothing" pressure placed on insurance companies and the certifying coroner or medical examiner through the inclusion on death certificates of clauses stating:

- suicide definite;
- suicide probable;
- suicide possible; and
- suicide ruled out.

A sliding scale of payment of insurance funds could be worked out to reflect the category chosen.

V PREVENTION, INTERVENTION AND POSTVENTION WITH "HIGH-RISK" POPULATIONS

In order to meet the objectives of preventing suicides among high-risk groups in Canadian society, it is critical to move beyond the identification of these populations to specific strategies designed to deal with each group.

1. Mental Disorder

Preventive strategies in this area should concentrate on the early identification of mental disturbance, as well as effective treatment of those psychiatric populations at high risk to suicide. Such strategies should be incorporated into the education and training of all health care professionals (Section IV, A, 4).

With regard to intervention strategies, although research to date demonstrating the effect of treatment of mental disorders on suicide rates is inconclusive, there is some evidence that the reduction in numbers of suicidal deaths is related to increased prescribing of anti-depressant drugs (Barraclough, 1972) and to a policy of routine psychiatric consultation following attempted suicide (Greer and Bagley, 1971; Kennedy, 1972).

Despite the ongoing debate regarding the nature of the relationship between mental disorder and suicide, the association cannot be ignored. The following are suggested strategies that may clarify the effectiveness of treatment methodologies as well as assist in suicide prevention and intervention.

(1) Efforts should be made to improve the ability of physicians and mental health professionals to recognize and treat mental disorders, especially depression.

(2) Efforts should be made to increase awareness among gatekeepers and the public of the symptoms of depressive disorders.

(3) The establishment and development of affective disorders clinics should be encouraged for major referral hospitals, serving three objectives:

- to provide consultation for difficult problems;
- to provide continuing education of professionals, gatekeepers and the public; and
- to conduct research.

(4) The following types of research should be supported:

- prospective studies similar to the "Iowa 500" comparing psychiatric and non-psychiatric populations with regard to the incidence of suicide; and
- studies to elucidate differences between the suicidal and the non-suicidal groups within the main categories of mental disorder.

2. Alcoholism

As with mental disorders, the exact nature of the relationship between alcoholism and suicide is subject to debate. Nevertheless, research has indicated an association which warrants the inclusion of alcoholics in the high suicide-risk category. Strategies of prevention and intervention must acknowledge the complexity of the relationship, particularly with regard to the overlap with depression and other mental disorders. It is suggested that addiction counsellors and the staff of detoxification centres be trained in suicide risk assessment.

Recommendation #17. Efforts to reduce the incidence of alcoholism should be strongly encouraged.

Recommendation #18. Additional governmental support should be considered for agencies participating in the treatment of alcoholics and their families.

3. Young People

Education

Suicide prevention and intervention strategies for young people would be most effective if implemented through the educational system. The school is the most convenient and realistic forum in which to initiate responsible and thoughtful discussion concerning the myths and realities of suicide. A willingness to seek help could be encouraged by stressing the normality of experiencing crisis, and the associated requirement for help and support from others.

A comprehensive programme, directed toward both teachers and students, would aim at the education of both groups to serve as gatekeepers, to recognize the various guises in which suicide might appear, to reduce the taboos around the phenomenon so that the usual reactions of denial, embarrassment and shame do not prevent the distraught child from expressing his need for help or potential rescuers from responding to the communications (Farberow, 1979).

The feasibility of developing province-wide suicide prevention programs in the educational system should be given careful consideration. The educational program proposed by Plamondon and Dionne, referred to in previous sections, may serve as a model (See Appendix 5).

Research shows that adolescents at risk to suicide have poor problem-solving and social skills, as well as a negative self-image. The Task Force supports the Alberta study's recommendation to implement, within the school system, programs aimed at improving the level of personal interaction and developing adequate levels of self-confidence and self-esteem (Boldt, 1976).

Treatment

Although many of the prevention and intervention strategies discussed previously are applicable across the age spectrum, there are areas of treatment which are specific to young people. In general, treatment of suicidal young people should meet the following objectives: elevation of self-esteem; improvement of interpersonal skills; and general improvement of coping skills (Ward, 1981). In addition, whenever possible, family members and "significant others" should be involved in the counselling or therapy.

Follow-up treatment should be considered to prevent relapses. However, this presupposes the existence of adequate "quality" services for young people. One complaint heard repeatedly throughout the country by the Task Force concerned the general lack of such services. Many parents, teachers and mental health professionals spoke of suicidal children and adolescents being placed on long waiting lists for counselling and psychiatric services. Provinces and communities should be encouraged to support and evaluate the efforts of services designed to meet the needs of suicidal young people.

Data Collection

As is the case of other 'high-risk groups', a standardized system of data collection is necessary in recognition of the serious problem of under-reporting of suicide and parasuicides in young people.

Recommendation #19. Provincial Ministers of Education should consider the feasibility of developing province-wide mental health programs for adolescent students, focusing on factors crucial to the development of self-confidence and self-esteem, strategies in problem-solving and decision-making, and interpersonal skills.

Recommendation #20. The treatment of young people who are at risk to suicide should recognize and account for vulnerability and environmental influences.

Recommendation #21. There should be a coordinated effort to identify gaps in counselling and psychiatric services for young people, and to establish programs based on a comprehensive approach to the family and the problems of the young.

Recommendation #22. All deliberately self-inflicted injury and threats of suicide on the part of young people should be taken seriously, and involve professional assessment and appropriate therapeutic follow-up.

4. The Elderly

The prevailing relatively high suicide rate suggests that the elderly constitute a high-risk group. Prevention and intervention strategies for the elderly should be reflected in retirement programs, self-help movements, education of family physicians, public education, crisis services, outreach programs, specialized psychogeriatric units and the integration of services.

Retirement Programs

Educational programs dealing with retirement could introduce preparatory measures for the elderly before retirement, thereby lessening the shock of adjustment. The development of more adequate pension plans has also been suggested (Lépine, 1982).

Self-help Movements

The development of self-help movements could provide employment and a sense of self-worth for the elderly. Younger people should be discouraged from robbing the elderly of a chance to do things for themselves; the temptation to step in and run all services for the elderly merely encourages regression. Their main goal should be to secure government support for activities and programs to be managed by the elderly themselves (Sakinofsky, 1976b).

Education of Family Physicians

Studies have indicated that between 70 and 90 per cent of elderly individuals who commit suicide see their family physicians within three months of their deaths, typically displaying hypochondriacal concerns and physical symptoms of depression (Barraclough, 1971). Other studies have emphasized that very few family physicians referred these individuals to a psychiatrist. Shulman states that this suggests:

> . . . both a low rate of recognition of psychiatric disorder and suicidal potential as well as a traditionally poor history of psychiatric service for the elderly. Moreover, because somatic concerns appear to be such a prominent aspect of the clinical presentation, the underlying affective disorder is easily missed. Consequently, analgesics, barbiturates or other hypnotics prescribed for symptomatic relief assume lethal potential in a suicide-prone individual (Shulman, 1978).

To this end, professional training in the identification of suicide risk in the elderly, and in appropriate treatment regimes should be encouraged.

Public Education

It has been recommended that the elderly themselves be educated to recognize the signs and symptoms of depression based on the theory that the sufferer is often the last to recognize that he or she is becoming depressed, and even if he or she is aware, the nature of the condition militates against the individual's seeking help. In addition, the public at large should be informed of typical personality changes in the suicidal elderly person: irritability, persistent insomnia, social withdrawal, restlessness, hypochondriasis and trying to cope with depression with alcohol or sleeping tablets.

Crisis Services

A survey of Canadian crisis services indicated that both young and elderly people are under-represented among callers; 84 per cent of those using the services were between the ages of 25 and 64 (Syer-Solursh and Scott, 1979). In recognition of the fact that isolation is a major contributing factor to suicide in the elderly, many of whom live alone "cut off from any kind of outside contact . . . some of them in danger of dying alone, their deaths unnoticed for days, even weeks" (Lavallée, 1982), many telephone crisis centres have developed outreach programs. Isolated seniors are phoned on a regular basis for purposes of befriending and for detection of problems with which the elderly person may not be able to cope. This trend should be encouraged.

Outreach Programs

The pride of many seniors interferes with the seeking of support and assistance. In response to this problem, Lépine suggests that outreach programs for the elderly "could involve the use of community communication networks to find and help individuals and families desperately in need of someone to listen to their problem before they are driven to a threat, an attempt, or, worse still, an accomplished suicide" (Lépine, 1982).

Specialized Psychogeriatric Units

Psychiatric hospitals and the psychiatric units of general hospitals should be encouraged to recognize the special difficulties and risks presented by the elderly patient. Wherever feasible, specialized psychogeriatric units should be set up. Such units have already been established in some large Canadian cities, where the needs of the ever-increasing numbers of the aged have placed a strain on traditional psychiatric in-patient services.

Integration of Services

It has been suggested that the elderly, more than any other high-risk group, require the integration and co-operation of services, including family doctors, geriatric and psychiatric specialists, public health nurses and social service agencies. Shulman notes that "no single practitioner or service can hope to cope with the multiple and varied difficulties which beset the suicide-prone elderly patient" (Shulman, 1978).

Recommendation #23. Comprehensive programs of care for the elderly should be implemented.

5. Native Peoples

Task Force members identified many areas of concern (political, economic, social, educational) which contribute to the high rate of suicide in Native peoples of this country (See Section III, C). Several examples of suicide intervention programs for Native peoples are given in Appendix 8, many of which fulfill objectives that reflect the following recommendations of the Task Force.

Recommendation #24. The development and implementation of suicide prevention strategies for Canadian Native peoples should be based on a comprehensive and culturally oriented approach.

Recommendation #25. A liaison and back-up network of mental health consultants should be accessible to all community health workers delivering health, education and social services to Native peoples.

6. Persons in Custody

Strategies of Intervention

The communication of information regarding the past or recent behaviour of suicidal persons in custody should be encouraged within institutions and between jurisdictions and institutions. Suicidal behaviour of persons in custody awaiting trial should also be communicated to and from the remand centre and to the institution eventually receiving the inmate. Within the institution itself, such information should be passed between members of the same shift, between succeeding shifts and between members of different branches or disciplines within the institution, e.g. medical, security, case management and chaplains.

A predominant consideration should be to treat all suicide risks seriously. An interdisciplinary approach should also be encouraged; the situation should not be regarded as purely a security matter, or entirely as a medical problem. Intervention in suicide typically requires a decision to either isolate the individual, albeit under supervision, or to place him or her in fuller association with others. The facts of the case should suggest to staff members which method is appropriate.

Self-help and peer-group assistance, an inmate watch, as well as supervision by staff, are further practical measures to intervene in the suicidal crisis in its early stages. All incidents of self-inflicted injury or attempted suicide should be reported to the institutional psychiatrist, psychologist or health care staff.

Standardized Reporting

Persons in custody or under sentence in Canada may be found in one of four situations: under arrest prior to charging, in municipal, provincial or federal police custody; on remand in police or provincial corrections custody; after sentence, in police, provincial or federal corrections custody; or on parole, or under mandatory provincial or federal supervision. Studies have indicated that there is a lack of standardized reporting and data collection with regard to the suicidal behaviour of persons in these situations. Deficiencies were found in records relating to:

- reporting periods;
- definitions;
- categories of incident;
- time-frames;
- standard bed-days or inmate-years;
- causes of the incident;
- sex, age, race;
- employment antecedents of victim;

- methods and weapons involved;
- length of incarceration;
- form of imprisonment; and
- type and severity of injury.

Further complexities are introduced by the different reporting requirements between provinces for persons under arrest or on remand.

The federal and provincial heads of corrections have indicated a requirement for standardized reports, particularly on provincial and federal inmates. The requirement for similar data on prisoners under arrest or on remand is an issue that should be decided by the jurisdictions concerned. The requirement for the collection of data on inmates on parole or on mandatory supervision should be addressed by the heads of corrections.

Although most police forces and correctional institutions would not welcome more forms or reports to submit, standardizing the records of suicidal incidents of persons in custody is essential for detailed study and analysis. Local organizations have developed formats which lack specificity, and are thereby open to misinterpretation. Figure 20 provides an example of a data collection form which could be universally enforced to promote standardized reporting. A central collating agency is also necessary for the standardization of data and to promote analysis and feedback of the results of studies. It is useful, therefore, that the Canadian Centre for Justice Statistics has been created in Statistics Canada for the collection of justice-related data. The heads of corrections should agree on a standard method of reporting suicidal incidents with the assistance of Statistics Canada. The definitions contained in the CSC study "Self-Inflicted Injuries and Suicides" (1981), would be a useful basis upon which to develop an agreed definition of the key terms.

Continuing Study

The collation of data on the suicidal behaviour of persons in custody will not in itself contribute to prevention of suicide, but thorough and continuing study of the data may. It is evident that there is a tendency for custodial agencies to restrict access to the results of studies. The majority of them, however, do show a keen interest in getting access to the results of studies conducted in other jurisdictions.

It is agreed that further study should be encouraged, particularly as standardized data becomes available. Results of studies should be shared between the jurisdictions concerned, and with the custodial agencies of other countries. The library of the Department of the Solicitor General of Canada is an appropriate point for maintaining a bibliography on the subject, together with details of ongoing studies. The same department could also keep policy-makers informed of new developments which may be incorporated into training materials. Further studies should incorporate the views of inmates and ex-inmates and should be extended to an examination of suicides of ex-inmates and individuals who were on parole or mandatory supervision.

Recommendation #26. Greater effort should be made to improve communication within and between correctional institutions, and between institutions and post-custodial rehabilitation programs, regarding the suicidal behaviour of inmates. This could be accomplished through a standardized system for the reporting of incidents of suicidal behaviour to be used in federal and provincial correctional systems and custodial agencies.

Recommendation #27. As part of an interdisciplinary approach, and for determining the most effective techniques in handling the suicidal inmate, there should be support for the broad dissemination of research results using resources such as the library of the Department of the Solicitor General of Canada.

7. The Bereaved

Postvention provides guidance through mourning, discouraging the self-destructive tendencies of the bereaved. It is intended to put "a measure of stability in the grieving person's life." Until very recently, the whole area of bereavement and suicide had been largely ignored. While there is considerable research on suicide and bereavement, the Task Force found evidence of only a few postvention programs to date in Canada (Appendix 9). Upon examination, it was evident that existing programs serve only a small percentage of those people who could benefit from them, and that rural areas receive no services whatsoever.

These programs provide a crucial intervention service for the bereaved. Their main objective is to counteract irrational or atypical grief-reactions by promoting emotional catharsis through "talking, abreaction, interpretation, reassurance, direction and gentle confrontation" (Shneidman, 1973). Emphasis is placed on the expression of inhibited feelings such as guilt, anger, hatred, embarrassment and shame.

The further development of such programs should be encouraged. These programs could be affiliated with existing mental health services, crisis centres, or the Canadian Mental Health Association to ensure professional involvement, an adequate referral network and acceptance by the public.

There has been considerable debate concerning the involvement of professionals in self-help bereavement programs. On the one hand, some volunteers do not acknowledge the requirement for expert advice, maintaining that the members themselves are the experts, stating that "after all, they have been there" (Romeder, 1981; Lavoie, 1981). On the other hand, others emphasize that professional back-up is an essential component of self-help groups (Harris, 1981). Dr. Parkes (1980), an authority on bereavement, concludes that self-help groups without professional guidance have been shown to be effective, whereas self-help groups with professional back-up have not yet established their success. Canadian studies suggest that both professional and volunteer involvement contributes significantly to the success of bereavement programs. It has also been shown that while people need to share their experiences with others who are bereaved by suicide in order to receive and provide mutual support, trained professionals and volunteers can integrate the experiences of the bereaved into a comprehensive framework, as well as confront and dispel the myths and fears relating to suicide.

Recommendation #28. Opportunities should be provided for both professionals and volunteers to enroll in training programs focusing on the bereavement of individuals close to suicide victims.

Recommendation #29. Mental health workers involved with the bereaved of suicide victims should be encouraged to establish contact as soon as possible following the suicide to provide emotional and psychological support, as well as information regarding the availability of local counselling services.

Recommendation #30. So that optimal programs for suicide-bereavement can be developed, the existing models should be evaluated in terms of their success in the attainment of their objectives.

Figure 20. Persons in Custody, Data Collection Form

Personal	Criminal	Institution	Incident
Names/aliases	Criminal record (FPS)	Address	Time, date Location in inst.
Address	Major offence	Province	Normal routine/ weekend
Sex	Current offence	Security level	Weapon/method used
D.O.B.	Violent/non violent offence	Size of inst./ population	How long in inst.
Place and province of birth	Number of convictions	Category: PC/SHU General Pop. Psych. Centre	Drugs involved
Place and province of residence	Province of arrest	Length of time in inst.	Alcohol involved
Ethnic origin	Date of arrest	Reason for transfer	Dissociation area/not –
Religion	Conviction	Under arrest/ remand	On suicide watch
Language	Date of sentence		Under medication?
Known drug history	Sentence		Previous self-injuries How many?
Known alcoholic history	Previous sex crime		Season/ weather
Known psychiatric history			
Significant recent traumatic events			
Education			
Intelligence			
Work history			

Source: Correctional Service of Canada. Self-inflicted injuries and suicides. Bureau of Management Consulting. Unpublished Document, 1981.

VI SUICIDE AND THE LAW

1. The Criminal Code

During the period when suicide was considered sinful, legal sanctions were instituted to supplement religious prohibitions. Over time, however, evolving social and religious attitudes have been reflected in the de-criminalization of attempted suicide. In 1972, attempted suicide was removed from the provisions of the criminal code. Otto Lang (1972), then Minister of Justice, explained:

> We have removed the offence of attempted suicide, again on the philosophy that this is not a matter which requires a legal remedy, that it has its roots and its solution in sciences outside of the law and that certainly deterrence under the legal system is unnecessary.

Counselling suicide, however, remains a criminal act. Section 224 of the Criminal Code is the only surviving legal prohibition relating to suicide.

> Everyone who (a) counsels or procures a person to commit suicide, or (b) aids or abets a person to commit suicide, whether suicide ensues or not, is guilty of an indictable offence and is liable to imprisonment for fourteen years.

2. Committal and the Mental Health Act

Considerable controversy surrounds the question of committal and the provincial legislation which empowers physicians and peace officers to detain, without consent, a person considered to be a danger to himself or others. Changing social attitudes towards human rights have resulted in more stringent criteria for committal. For example, the 1978 Ontario Mental Health Act requires that the risk be sufficiently clear to be established in court; this is far more stringent than was the case with the preceding Act.

This can result in a legal quandary for the physicians. On the one hand, committal can result in legal suits brought by the patient or family (here, as in most areas of medical practice, the threat of legal suit has increased markedly). On the other hand, the physician is also at risk to legal action if he fails to commit a suicidal, yet non-compliant patient. This situation would be improved if legal provision were made in mental health Acts to protect physicians who have formally committed high-risk suicidal patients.

It is impossible to assess the effect, if any, on the suicide rate of more stringent criteria for committal. Too many other variables exist to allow for a clear determination. However, there may be a relationship between the increased restrictions on committal and the suicide rate. Clearly, a balance has to be struck between broad social attitudes to individual liberty and the requirement to protect the suicidal individual and his family from self-destructive behaviour. The Alberta Task Force on Suicide addresses the dilemma:

> Does the state have . . . a moral and humanitarian obligation and right to use the law to prevent individuals from killing themselves and to bring unwilling people to treatment? Some question whether an individual should be restrained by law from carrying out a voluntary act which they perceive as affecting only himself. But . . . suicide does not affect only the actor – it affects many others immediately, profoundly, and tragically and, furthermore, it causes general harm to society (Boldt, 1976).

In general terms, the provisions of the Mental Health Acts relating to committal and suicide are of value and should be maintained. However, inter-provincial standardization would be an asset.

3. Confidentiality

The issue of confidentiality arises in three contexts: volunteer crisis-intervention services, professional treatment and the question of a central suicide registry.

Concerning the first, some suicide intervention services maintain that anonymity and confidentiality are paramount even if the caller's life is thereby endangered. Other services disagree, arguing that risk to life is a sufficient reason to break confidentiality in order to send professional help or the police. However, this approach may reduce the willingness of individuals to use such services. There is insufficient data to resolve this dilemma.

Concerning the behaviour of professionals, there is some debate about the propriety of breaking confidentiality if the patient's life or health is in danger. However, recent legal decisions in Canada and the U.S. emphasize that confidentiality is not considered sufficient ground for avoiding essential preventive action.

With regard to a central registry, there may be a tension between the requirement for confidentiality and the benefits deemed to flow from such a system. Dr. Meno Boldt, the chief proponent of this system in Canada, argues that a registry would greatly assist research and eventual treatment and prevention. However, compulsory reporting would seem to confront the issue of confidentiality. Nevertheless, Dr. Boldt is of the opinion that adequate precautions would allow for the maintenance of confidentiality and the establishment of a registry.

Recommendation #31. There should be an ongoing review of all provincial and territorial mental health Acts to establish uniform provisions for improving the safety of suicidal individuals.

VII RESEARCH

One of the greatest obstacles encountered by the Task Force in the preparation of this report was the lack of Canadian research on suicide. It is a reasonable assumption that more funding is available in other countries to study suicide. While some of the findings can be confidently applied to the situation in Canada, most cannot. For example, certain preventive measures which lower the suicide rates in Britain (see section IV, A, 3) may not be valid in Canada, where both the rates and patterns of suicide are significantly different.

There are several factors to be considered in the conduct of suicide research in Canada. Our small population dictates that demographic studies be conducted through multi-centre or national collaborative efforts in order that short-term data may reach an acceptable level of statistical confidence. Otherwise, data will need to be collected over many years before statistically reliable findings can be generated.

Both federal and provincial governments should recognize suicide prevention as a high priority. An example can be taken from the government of Alberta (see Appendix 10), which has acknowledged the severity of the problem of suicide and has made a concerted effort to deal with it. The requirement for increasing the research capability in Canada should be viewed as an essential prerequisite to the planning and delivering of appropriate programs and services, and in the evaluation of their effectiveness.

Recommendation #32. The Alberta model of a system for suicide prevention should be assessed by other provinces and territories for possible implementation in their jurisdictions.

Recommendation #33. Both the federal and provincial government departments responsible for mental health should have a senior official responsible for suicide-prevention programs and for facilitating research. (The Alberta model of the appointment of a provincial suicidologist should be considered where possible.)

Recommendation #34. The federal and provincial governments should collaborate to establish a national mortality data-base and to examine the question of the mandatory contribution of data to the system.

Recommendation #35. Evaluation of current procedures for the collection of data is necessary for the development of more efficient and standard techniques.

Recommendation #36. Provincial coroners and medical examiners should be authorized to permit accredited researchers access to individual files and to facilitate further collection of data through local coroners and police. (Current legislation regarding issues of confidentiality may require amendment to make this possible.)

Recommendation #37. It is essential that research findings on suicide and parasuicide be disseminated in the health-care system.

Recommendation #38. Formal research into the effectiveness of training methods should be encouraged on an inter-disciplinary basis for those involved with suicide and suicidal individuals.

Recommendation #39. Government funding should be increased for research on suicide, and this should be done on a priority basis.

Recommendation #40. Priority should be given to multi-centre and multi-disciplinary research with particular focus on the various factors (i.e. social integration, isolation, mental disorder, alcoholism, drug abuse, family and educational difficulties) influencing young people who are suicidal.

VIII CHAIRPERSON'S CONCLUDING REMARKS

The decision to establish a Task Force on Suicide in Canada has been reinforced and consensually validated by the subsequent creation of both working groups and Task Forces in a number of other jurisdictions, e.g. The National Institute of Mental Health Task Force on Youth Suicide (U.S.A.), the Dutch government's Task Force on Suicide in the Netherlands, and the various working groups on suicide established by the World Health Organization Regional Offices in Europe.

Suicide is generally seen as a preventable death. Therefore, reason dictates that once one develops an adequate understanding of the phenomenon of suicide, the means by which one can prevent such deaths will become obvious.

Would it were so! The experience of the Canadian Task Force members (which appears to be echoed by colleagues in other groups, such as those named above) is that suicide is an over-determined, multi-dimensional behaviour, the essence of which is still undefined. The more one learns, the more acute is the awareness of ignorance. Thus, although our probability statements become increasingly complex and sophisticated, we still cannot predict with certainty in any given situation which person will choose to end his life and which will choose to live.

Does this experience invalidate the study of suicide? Certainly not! As evidenced in this report, the members of the Task Force learned a great deal. We all initially came to the Task Force experience with acknowledged areas of interest and/or expertise. Our interaction forced a broadening of our knowledge to encompass perspectives presented by other group members. We established limits; we tried to avoid existential debates and forays into the realms of philosophy and theology. We tried also to keep close to the literature, to find out what Canadians had said on the topic. By and large there isn't a great deal of Canadian material on suicide (although as the Task Force concludes, more and more Canadian articles seem to be finding their way into print!).

Our understanding and definition of the task changed a number of times, as did the way we collected and organized the materials. Similarly, the generation of recommendations proved to be more difficult than originally appeared. Our "shopping list" of several hundred items was eventually whittled down to 40 formal recommendations. A number of additional recommendations were down-graded to "suggestions" or "points for consideration", primarily because they appealed to common sense, although their efficacy could not be proved.

Some of the more relevant conclusions of the Task Force are:

(1) Whereas suicide in Canada once was almost exclusively a phenomenon of elderly males, it has become increasingly frequent among young males over the last 15 to 20 years.

(2) The cost of suicide to Canadian society is enormous, especially when calculated in terms of years of productive life lost.

(3) The number and impact on society of parasuicides are difficult to determine, but believed to be much larger than the number (and impact) of suicides themselves.

(4) Male suicides favour the choice of firearms (other than handguns). Females choose to ingest drugs.

(5) There are significant regional differences in rates and patterns of completed suicide, as well as the constellation of factors which may be contributory.

(6) There are significant sex differences in relation to social factors which may be contributory. At all ages, rates for males are considerably higher than rates for females.

(7) Social factors, medical/psychiatric factors and psychodynamic factors have been variously identified as creating a risk for suicide in vulnerable individuals. Task Force members tend to favour an interactional model of causality as the most probable and, at the same time, reasonable in the light of both research findings and clinical experience.

(8) Seven "high-risk" populations were identified within the general Canadian population. The list is not exhaustive. It includes individuals with mental disorders, alcoholics, young people, the elderly, Native peoples, persons-in-custody, and those bereaved as a result of a suicide. Each requires special strategies of appropriate prevention, intervention and postvention response.

(9) Problems in the data base relate to variations in the methods by which deaths are certified. While significant, these problems are not insurmountable.

(10) As noted in a World Health Organization Report (1982b) "There is ample evidence that social conditions which are amenable to change are the main determinants of suicide." Therefore, while ambitious, steps to ameliorate societal conditions which may contribute to suicide (and other self-destructive behaviours) must be considered.

(11) Society's attitudes towards suicide and its capacity to respond to potentially suicidal individuals is best addressed through the development of public education programs. The role of the media is, of course, of critical significance to the success of such programs.

(12) Although it may seem simplistic, one of the major ways by which many suicides can be prevented is through reduction in the availability and lethality of means.

(13) Suicide prevention, intervention and postvention programs are only as good as the people delivering them. Of primary concern to Task Force members was the relative lack of training and formal preparation for dealing with suicide which is currently received by most mental health professionals and gatekeeper groups.

(14) While few Canadian suicide prevention, intervention or postvention programs have been formally evaluated for their effectiveness, there are a number of programs within the country which appear to be worthy of study and possible imitation.

(15) An on-going problem for Task Force members in their work was the relative lack of good Canadian research into suicide (and related self-destructive behaviours). The need for Canadians (and government at all levels) to recognize suicide as the significant public health problem that it is and, accordingly, to allocate increased funds, facilities and opportunities for suicide research is one of the major conclusions reached in this report.

Obviously, members of the Task Force hope that serious consideration will be given to the ideas expressed and suggestions and recommendations put forth in this Report. If even some of these are acted upon, it is felt that the long-range result will be a reduction in both the incidence and impact of suicide in Canada.

APPENDIX 1

SUMMARY OF RECOMMENDATIONS

The scope and nature of the following recommendations reflect the expertise of the Task Force members. The mental health priorities in any jurisdiction will determine the saliency and urgency of the recommendations. Suicide, however tragic, is a low frequency event having a more limited societal impact than other pressing mental health issues such as the care and treatment of the chronically mentally ill, the mental health needs of victims of violence including battered women and abused or neglected children and the mental health problems associated with aging. In addition, not all the recommendations will apply across Canada. Some may already be incorporated in provincial and local mental health services, or their intent may have been met with service arrangements not anticipated by the Task Force.

RECOMMENDATION (SECTION III)

1. Mental health professionals in each province and territory who are knowledgeable about suicide, should work toward the development of a classification system, to be used for the determination of the cause and manner of death, implementing uniform and unbiased criteria designating degrees of probability.

RECOMMENDATIONS (SECTION IV)

2. Mental health professionals knowledgeable about suicide should consult with media representatives in an attempt to mitigate the negative effects of media coverage of suicides.

3. Public education programs should be developed by recognized mental or public health authorities in collaboration with media agencies (e.g. The Press Council), with a view to reducing the stigma attached to seeking treatment for states of depression; informing the public about the warning signs of suicide; and familiarizing society with various coping skills to use in times of distress.

4. Measures should be taken to reduce the lethality and availability of instruments of suicide (e.g. more stringent enforcement of gun control legislation, more stringent control of the distribution of medications, and wherever possible, limitations on the accessibility of attractive hazards).

5. Governmental assistance should be provided (e.g. to universities and community colleges) for education and training programs, to be provided on an inter-disciplinary basis for the various service disciplines (e.g. health care professionals and gatekeepers) in order to improve their expertise in dealing with suicidal individuals.

6. In recognition of the unique set of problems inherent in the custodial and correctional services, workshops for suicide-prevention training should be implemented for all custodial officers and for the police who are employed in pre-sentencing custodial facilities in all jurisdictions.

7. Discipline, or group-specific issues and concerns related to suicide, should be addressed through additional training materials developed at the initiative of the group involved (e.g. physicians, clergy, teachers).

8. Teachers should be informed, either through initial training or professional development, of techniques in the detection and assessment of suicidal risk in students, and of the available counselling services in the community.

9. An immediate assessment by suitably trained personnel should be requested for every potentially suicidal individual entering the emergency wards of general hospitals.

10. Where the resources exist, a psychiatric emergency staff which is multidisciplinary in nature should be established, and the involvement of trained volunteer staff should be considered.

11. The psychiatric emergency team should be encouraged to communicate effectively with other mental health and social services in the community, as well as with the police and crisis centres.

12. A suicidal individual hospitalized as an in-patient in a medical or surgical unit should be assessed by suitably trained staff as soon as possible after admission.

13. If possible, the Canadian Council of Crisis Centres should review existing standards and performance levels and develop guidelines for Canadian Centres, instituting a system of evaluation and accreditation for the centres.

14. Evaluation studies of Canadian crisis centres should be undertaken to determine the nature, course and effect of services provided.

15. Whenever properly qualified professionals are available, psychological autopsies should be performed in all cases of equivocal or causally undetermined deaths, as well as in suspected cases of suicide in psychiatric and general hospitals, prisons, community clinics and probation services.

16. Health care professionals should include case-management reviews in their routine investigations of all suicides where there is a recent history of psychiatric treatment.

RECOMMENDATIONS (SECTION V)

17. Efforts to reduce the incidence of alcoholism should be strongly encouraged.

18. Additional governmental support should be considered for agencies participating in the treatment of alcoholics and their families.

19. Provincial Ministers of Education should consider the feasibility of developing province-wide mental health programs for adolescent students; focusing on factors crucial to the development of self-confidence and self-esteem, strategies in problem-solving and decision-making, and interpersonal skills.

20. The treatment of young people who are at risk to suicide should recognize and account for vulnerability factors and environmental influences.

21. There should be a coordinated effort to identify gaps in counselling and psychiatric services for young people, and to establish programs based on a comprehensive approach to the family and the problems of the young.

22. All deliberately self-inflicted injuries and threats of suicide on the part of young people should be taken seriously, and involve professional assessment and appropriate therapeutic follow-up.

23. Comprehensive programs of care for the elderly should be implemented.

24. The development and implementation of suicide prevention strategies for Canadian Native peoples should be based on a comprehensive and culturally oriented approach.

25. A liaison and back-up network of mental health consultants should be accessible to all community health workers delivering health education and social services to Native peoples.

26. Greater efforts should be made to improve communication within and between correctional institutions, and between institutions and post-custodial rehabilitation programs, regarding the suicidal behaviour of inmates. This could be accomplished through a standardized system for the reporting of incidents of suicidal behaviour to be used in federal and provincial correctional systems and custodial agencies.

27. As part of an interdisciplinary approach, and for determining the most effective techniques in handling the suicidal inmate,there should be support for the broad dissemination of research results using resources such as the library of the Department of the Solicitor General of Canada.

28. Opportunities should be provided for both professionals and volunteers to enroll in training programs focusing on the bereavement of individuals close to suicide victims.

29. Mental health workers involved with the bereaved of suicide victims should be encouraged to establish contact as soon as possible following the suicide to provide emotional and psychological support, as well as information regarding the availability of local counselling services.

30. So that optimal programs for suicide-bereavement can be developed, the existing models should be evaluated in terms of their success in the attainment of their objectives.

RECOMMENDATION (SECTION VI)

31. There should be an ongoing review of all provincial and territorial mental health Acts to establish uniform provisions for improving the safety of suicidal individuals.

RECOMMENDATIONS (SECTION VII)

32. The Alberta model of a system for suicide prevention should be assessed by other provinces and territories for possible implementation in their jurisdictions.

33. Both the federal and provincial government departments responsible for mental health should have a senior official responsible for suicide-prevention programs and for facilitating research. (The Alberta model of the appointment of a provincial suicidologist should be considered where possible.)

34. The federal and provincial governments should collaborate to establish a broad national mortality data base and examine the question of the mandatory contribution of data to the system.

35. Evaluation of current procedures for the collection of data is necessary for the development of more efficient and standard techniques.

36. Provincial coroners and medical examiners should be authorized to permit accredited researchers access to individual files and to facilitate further collection of data through local coroners and police. (Current legislation regarding issues of confidentiality may require amendment to make this possible.)

37. It is essential that research findings on suicide and parasuicide be disseminated in the health-care system.

38. Formal research into the effectiveness of training methods should be encouraged on an inter-disciplinary basis for those involved with suicide and suicidal individuals.

39. Government funding should be increased for research on suicide, and this should be done on a priority basis.

40. Priority should be given to multi-centre and multi-disciplinary research with particular focus on the various factors (i.e. social integration, isolation, mental disorder, alcoholism, drug abuse, family and educational difficulties) influencing young people who are suicidal.

APPENDIX 2

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APPENDIX 4

CANADIAN ASSOCIATION FOR SUICIDE PREVENTION

At the 10th Congress of the International Association for Suicide Prevention in Ottawa, June 1979, the Canadian delegates passed a resolution which stated, in part:

"A Steering Committee be established to investigate a co-operative approach to promote and facilitate action . . . in the area of suicide prevention . . . (and that) this committee be given a time frame of two years (i.e. until the 11th I.A.S.P. Congress) to develop a proposal regarding the ongoing structure, mandate and membership of this body."

Dr. Diane Syer-Solursh of Toronto was elected as chairman of the Steering Committee, and 18 delegates volunteered their assistance in performing the task of the committee. The Steering Committee met six times during the following two years, but due to geographical limitations, the majority of the work was performed by six members from the southern Ontario region.

Subsequent to a lengthy debate on the feasibility of the resolution passed in Ottawa, the Steering Committee identified the following objectives:

- to investigate viable means of addressing issues related to suicide within Canada and/or the needs of individuals working in this area;
- to include as members those organizations and individuals who are interested in addressing such issues; and
- to publish a report of the investigation within a two-year period to be distributed to Canadian delegates who attended the 1979 Congress and to any other interested individuals.

Following the endorsement of these objectives by all committee members, the Steering Committee performed the following tasks designed to meet these objectives:

(a) Information network

The development and circulation of an information sheet on suicide in Canada, directing interested individuals to contact Dr. Syer-Solursh, resulted in an "information network" list of over 250 members.

(b) Questionnaire

A survey was conducted to assess the needs and interests of the members of the information network. Response to the questionnaire indicated that:

Respondents were geographically representative of seven provinces (no information from Saskatchewan, New Brunswick, Newfoundland, or the Northwest Territories). The returns showed varied disciplinary representation with 54 per cent from health care professionals, 25 per cent from crisis centre members, 15 per cent from academics/ researchers and 7 per cent from government employees.

There was strong agreement (85 per cent) that a Canadian Association for Suicide Prevention should be formed as soon as possible.

While there is research on many aspects of suicidology happening throughout Canada, some mechanisms for sharing research information and procedures are needed. In terms of priorities in research, the first four choices of 32 respondents were: evaluation of prevention, assessment of risk, the psychology of suicide and epidemiology.

Based on the results of the survey, the Steering Committee strongly encouraged the formation of a Canadian Association for Suicide Prevention. To this end, it was given a mandate from the Canadian delegates at the 11th I.A.S.P. Congress in Paris, July 1981, to continue to work toward this goal through the development of a model of association and a set of by-laws.

This work culminated in January, 1985, when the Canadian Association for Suicide Prevention/L'Association canadienne pour la prévention du suicide, was granted a federal charter as a non-profit charitable organization. It is the objective of the Association "to promote within Canada activities designed to reduce the incidence and/or effects of suicide". C.A.S.P./A.C.P.S. activities designed to further this objective include, for example, the distribution of information about new research, educational and resource material to members.

APPENDIX 5

EXCERPT FROM A PROPOSED EDUCATIONAL PROGRAM FOR SCHOOL PERSONNEL AND STUDENTS

Working with the Quebec Division of the Canadian Mental Health Association, Plamondon and Dionne (1977) developed a program for school personnel and students, one section of which included the following directives:

(a) Recognize the signs of suicide. Look for symptoms of deep depression and indications of hopelessness and helplessness. Listen for suicide threats and words of warning, such as "I wish I were dead" or "I have nothing to live for." Watch for despairing actions and signals of loneliness; notice whether the person becomes withdrawn and isolated from others. Be alert to suicidal thoughts as a depression lifts.

(b) If you believe someone is in danger of suicide, act on your beliefs. Don't let others mislead you into ignoring suicidal signals.

(c) As quickly as possible share your knowledge with parents, friends, teachers, or other people who might help in a suicidal crisis. Don't worry about breaking a confidence if someone reveals suicidal plans to you. You may have to betray a secret to save a life.

(d) Stay with a suicidal person. Don't leave a suicidal person alone if you think there is immediate danger. Stay with the person until help arrives or a crisis passes.

(e) Listen intelligently. Encourage a suicidal person to talk to you. Don't give false reassurances that "everything will be O.K." (or make promises which you cannot keep). Listen and sympathize with what the person says.

(f) Urge professional help. Put pressure on a suicidal person to seek help from a psychiatrist, psychologist, social worker or other professional during a suicidal crisis or after a suicide attempt. Encourage the person to continue with therapy even when it becomes difficult.

(g) Be supportive. Show the person that you care. Help the person feel worthwhile and wanted again.

APPENDIX 6

MODEL HOSPITAL-BASED SUICIDE INTERVENTION SERVICES

(i) The S.H.A.R.E. Team

The Self-Harm Assessment, Research, and Education Program was established in 1977 as a result of a two-year demonstration model grant from the Ontario Ministry of Health; it has since received permanent funding. The program is conducted by the Department of Psychiatry at the Toronto General Hospital. The team consists of various mental health professionals: a psychiatrist, psychologist, two social workers, in addition to full-time secretarial staff.

Since its formation, the primary objective has been to study all incidents of self-harm or attempted suicide that are handled in the hospital's emergency department, in order to develop a comprehensive profile of the types of people who are potentially suicidal. In addition to its research activities, the S.H.A.R.E. team is providing public information and educational sessions for health personnel from various disciplines.

Recently, the S.H.A.R.E. program has been expanded to include a clinical treatment component, with the addition of six psychiatric beds for short-term admission.

(ii) The Liaison Unit of St. Joseph's Hospital

In 1970, the Department of Psychiatry at McMaster Medical School organized a system of inter-hospital cooperation to handle psychiatric emergencies, including attempted suicides. As a result, this joint emergency psychiatric service, located adjacent to the emergency department of St. Joseph's Hospital in Hamilton, Ontario was developed. The goals of the service are:

- to provide the best possible service for referred patients, using all effective modes of psychiatric treatment;
- to participate in post-graduate and undergraduate teaching programs;
- to conduct research related to psychiatric care; and
- to provide innovative approaches for assessment and treatment of patients in the hospital and community.

If necessary, suicidal patients are admitted to an eight-bed, short-stay psychiatric program. Treatment involves an initial psychiatric assessment followed by a "work-up" involving all key people in the patient's life, which may include the family, the family physician, and, if possible, a representative from a social agency who is now or might be involved with the patient. The average length of stay in hospital is three to five days, after which the patient is treated on an out-patient basis by a community or social service agency, or by the family physician. A therapist from the Liaison Unit accompanies the patient to the first appointment to ensure compliance.

In addition to providing clinical services, the multi-disciplinary mental health staff of the Liaison Unit has a commitment to research.

(iii) The S.A.F.E.R. Program

The Suicide Attempt, Follow-up, Evaluation, and Research or S.A.F.E.R. Program, established in 1972 at the Vancouver General Hospital, is another example of inter-hospital cooperation. Funded both provincially and federally, it has since been extended to involve the emergency departments of the Burnaby General Hospital, the Royal Columbian Hospital and St. Paul's Hospital.

The S.A.F.E.R. Program's objectives are:

- to offer individual, family, and marital counselling;
- to encourage alternative methods of coping with stress;
- to suggest further and additional professional help when indicated;
- to be available in times of recurring crisis; and
- to inform clients of other existing community resources.

This system of cooperation ensures that whenever a suicidal patient is admitted to the emergency ward of one of the system's hospitals, the S.A.F.E.R. team is contacted. The team consists of individuals with various backgrounds and qualifications, all of whom have been trained in suicide assessment and management. The initial contact with the patient is made in response to a request by the attending physician for an assessment of the patient's suicidal risk. Following the initial assessment, and with the agreement of the hospital staff, the team contacts the patient and conducts home visits on an intensive daily, bi-weekly, and finally, weekly basis, for approximately six weeks. The patient may be simultaneously involved in either in-patient or out-patient psychiatric treatment.

A study by Termansen & Bywater (1975) has indicated that patients followed by S.A.F.E.R. have a greater rate of improvement in many areas of psychosocial functioning, and a significantly lower rate of repeated suicide attempts. While the rate of completed suicide in Vancouver (23 per 100,000) did not change in the previous five years, there was a 40 per cent drop in the number of suicide attempts admitted to emergency wards of the city's general hospitals.

(iv) Toronto East General Hospital's Crisis Intervention Unit

The Crisis Intervention Unit, (C.I.U.) a division of the Department of Psychiatry of the Toronto East General Hospital, was established in March, 1972. Its purpose is to provide 24-hour, seven-days-a-week service to psychiatric patients admitted to the hospital's emergency department. The C.I.U. sees over 2,000 patients a year, approximately 40 per cent of whom are considered to be at risk because they have inflicted injury upon themselves, made threats or expressed suicidal ideation.

The following services are provided to the hospital and the community:

(a) Emergency

An inter-disciplinary professional staff is available to the emergency department from 9:00 a.m. to 5:00 p.m., Monday through Friday, and on a rotating on-call basis during the evenings and weekends. The hospital is also staffed by 100 trained volunteers from the C.I.U., generally working in pairs, to provide assistance during the evenings and weekends.

All crisis workers, volunteer and professional, offer a consultation service to the emergency department's medical staff. Typically, following medical clearance, an assessment interview with the patient takes place, as well as a consultation with available family members. Subsequently, a recommendation is made to the general practitioner regarding the appropriate follow-up treatment for the patient.

(b) In-patient

A 10-bed short-term in-patient service, staffed by an inter-disciplinary team is provided. The maximum stay for a patient in the in-patient service is 72 hours, which is occasionally extended to arrange the appropriate disposition for the patient. The objectives of the in-patient service are identification, clarification and interpretation of the immediate stresses affecting the patient. Whenever possible, immediate family members and close friends are encouraged to be involved in at least one of the therapy sessions to provide additional information and alternative interpretations of the issues to which the patient is reacting.

(c) Out-patient

The out-patient service is staffed by multi-disciplinary teams and provides facilities for the training of medical interns, and graduate students of psychology and social work. The staff provide a clinical service, carrying a case load of patients, and an on-call consulting service to the emergency department. A patient who is seen in the emergency department and is directly referred to the Crisis Out-patient Service is provided with an appointment within 24 hours of the initial contact with the hospital.

(d) Outreach

Two unique outreach services are provided. One is a School Outreach Program, in which staff provide suicide prevention workshops to high school students and act as consultants to teachers, guidance counsellors and administrative personnel. The other is a Native Community Crisis Team, a specifically designed program for Native people in the city of Toronto (Appendix 8).

The Crisis Intervention Unit also provides a medical/psychiatric back-up service to telephone crisis centres in downtown Toronto. It is associated with local divisions of the Metropolitan Toronto Police Department and other community-based mental health and social service agencies. C.I.U. staff frequently conduct in-service training workshops for members of these agencies, teaching skills relating to the detection, assessment and management of the suicidal crisis.

APPENDIX 7

MODEL COMMUNITY-BASED SUICIDE INTERVENTION SERVICES

(i) The Salvation Army's Suicide Prevention Bureau

The Salvation Army has developed several telephone crisis services. The original one is based in Toronto and has been functioning on a 24-hour basis since the late 1950s. The calls are received by the staff through a processor which allows the calls to be directed to the workers' homes or other locations.

The core staff consists of eight to ten full-time qualified Salvation Army officers who are salaried, although in some cities, volunteers are used to augment the core of professional workers. The staff is experienced in working with troubled people by virtue of their years of service in hospitals, other institutions, correctional services or in pastoral counselling. The volunteers are trained through a program based on material developed by the American Association of Suicidology.

A unique feature of the model developed by the Salvation Army is the maintenance of "flying squads" which provide callers who are in distress with necessary face-to-face counselling. Very few telephone-based services in Canada have offered this additional service.

(ii) The Crisis Intervention and Suicide Prevention Centre of Greater Vancouver

This large and active centre also maintains a flying squad, which responds to emergency calls, assesses, counsels, and, if necessary, takes the caller to a hospital or other service agency. Other services include a T.T.Y. line, a form of teletype used by the deaf, and a "seniors' line", a service in which volunteers make regular calls to isolated senior citizens. These and other types of specialized services are becoming more common as crisis centres broaden the base of their primary prevention work.

(iii) Centre de recherche et de prévention des suicides de Ste-Foy

This centre, established in 1979, operates in French, and is partially funded by Quebec's Social Affairs Department. It is modelled on the Los Angeles Suicide Prevention Centre and has 50 volunteers on its 24-hour hot line, backed up by two psychiatrists, an information officer and a professional researcher.

Referrals to the centre come from hospital emergency wards, family physicians and social service agencies. Callers are encouraged to come to the centre for face-to-face discussion and counselling. In addition, a flying squad of seven crisis intervention workers is kept on standby, prepared to go to the scene of a crisis.

It is significant that a 1982 Quebec study of suicide recommended that 12 such centres be established across the province (Harnois, 1982).

(iv) Klinic

Klinic is a community-based program situated in Winnipeg. The program's telephone crisis-intervention service is available 24-hours a day, seven-days-a-week. Klinic's multi-disciplinary team consists of over 20 professionals and approximately 100 volunteers. In 1980, the staff handled 11,602 requests for help.

Individuals in distress are encouraged to telephone the centre to discuss their problems. Counselling is also offered on a regular basis for individuals, couples and families. When necessary, a counsellor will visit the caller to assess the situation and determine the appropriate strategies to meet the individual's needs.

In addition to the suicide-prevention service, Klinic operates a rape crisis and counselling service, a pregnancy and family-planning counselling program, a V.D. diagnosis and treatment program and other health maintenance services.

(v) The Council on Suicide Prevention

A very different model of service is employed by Toronto's Council on Suicide Prevention, incorporated in December 1975. The council is not a direct service agency, but rather an association of approximately 20 professional representatives of a variety of organizations concerned with the problem of suicide. These include the Metro Toronto Police Department, the Chief Coroner's Office, departments of psychiatry in large general hospitals, telephone distress centres, the Salvation Army's Suicide Prevention Bureau, large insurance companies and other community-based services such as The Catholic Children's Aid Society.

The formal objectives of the council are as follows:

(a) Research:

- to compile and study data on attempted and completed suicides;
- to provide a description of aid resources and distribute this information to the relevant agencies.

(b) Resource:

- to provide a communication network for organizations involved in the area of suicide prevention in order to share expertise, information, ideas, systems of response, problems, etc.; and
- to provide a resource support network.

(c) Education:

- to increase community awareness of suicide as a serious social and health problem;
- to provide information and training for professionally oriented organizations.

The members of the council meet monthly to discuss and plan the actions required to meet the above objectives. Each May, the Council sponsors Suicide Prevention Week in Toronto. It provides speakers to different agencies, including the media, boards of education, and other groups, to discuss problems relating to suicide and suicide prevention. Twice each year, the Council organizes one-day workshops in suicide-prevention skills for groups such as the police, clergy, general practitioners and staff from community social service and mental health agencies.

Encouraged by the success of the Toronto-based group, individuals working in suicide prevention in Hamilton, Ontario, have organized a second Council on Suicide Prevention.

APPENDIX 8

SUICIDE INTERVENTION PROGRAMS FOR NATIVE PEOPLES

(i) The Native Community Crisis Team

A unique feature of the Native Community Crisis Team is the outreach service provided for urban Native peoples in mental health crises. It is provided by the Crisis Intervention Unit of the Department of Psychiatry, Toronto East General Hospital. The program was established in October 1982, and is funded by a grant from the Ontario Ministry of Health, with a target population of 35,000 to 45,000 Native peoples living in Metropolitan Toronto.

Funding was provided as a result of a Toronto study which depicted the needs of Native peoples. The profile of the "average" respondent to the survey indicated a young status Indian (average age 24.19 years) who had been living alone or with friends in the city for two years or less, who was employed in an office, factory, or in construction and who, in principle, believes in the traditional Native ways, but does not adhere to them. This discrepancy in lifestyles may exist because of the difficulty in practising the traditional Native lifestyle in an urban setting, particularly when the main concern is acceptance into the dominant culture.

A majority of the respondents (82 per cent) reported that they had experienced a major life-crisis within the previous year. The types of problems which they had experienced were largely determined by the difficulties in trying to survive in a large city. They reported financial and housing problems, difficulty with interpersonal relationships, physical or medical problems, and alcohol and/or substance abuse. With regard to the type of assistance sought or received, responses indicated that 38 per cent had turned to friends or family members for help, 27 per cent had sought help from various other sources and 35 per cent had attempted to cope with their problems on their own. It is significant to note that given the several hundred community mental health and social service agencies available in Toronto, 59 per cent of the respondents could not identify a single agency that they felt comfortable approaching. Yet, 82 per cent stated that they would more likely approach a Native counsellor if one were available.

The Native Community Crisis Team is located in an area of Toronto which has a high concentration of Native peoples. This location is preferred to the hospital setting since Native peoples generally have a negative and distrustful attitude toward hospitals. The majority of the clients are self-referrals, who drop in because they have heard from a trustworthy source that it is a "good place" to seek help. The team offers services such as crisis counselling and brief psychotherapy sessions which involve 'significant others', where possible. If hospitalization is necessary, the Native counsellor remains involved as a member of the treatment team.

Although the service is new, it has received a positive response from the Native community. There have been several inquiries made by other cities requesting information to assist in the development of similar programs. It is suggested that this service may prove to be an effective model for suicide prevention with urban Native peoples.

(ii) The Cowichan Band's Crisis Intervention Program

The Cowichan Indian Band, situated near Duncan on Vancouver Island, has developed a telephone crisis-intervention program which is staffed by Native people and serves the population of the Band. The program focuses on crisis intervention, suicide prevention, and community resource information. It provides an "emergency outreach" person-to-person follow-up to a suicide attempt and service to the bereaved.

The objectives of the program are:

- to provide counselling, information, and crisis intervention to Band members;
- to serve as a link between the reserve and the various community agencies in the area;
- to keep people informed of the social problems existing among Band members, so that appropriate services are developed;
- to provide training for volunteers in order to acquire the necessary expertise to deal with social problems and to contribute to their own self-growth;
- to develop an extensive mental health program on the reserve;
- to develop techniques in crisis intervention through first-hand experience which could be utilized by other Bands; and
- to provide assistance to other Bands in the development of similar programs (Medical Services Branch, 1982).

(iii) The Grassy Narrows Crisis Intervention Program

This program, funded by the Ontario Ministry of Community and Social Services, serves the Grassy Narrows Reserve and is situated at the confluence of the Wobigoon and English Rivers, 50 miles north-east of the town of Kenora, Ontario. It was established in December 1980 in response to two problems: relocation and mercury pollution.

In 1963 the residents of Grassy Narrows were forced to relocate to make way for a Hudson Bay Company's logging road. The abandonment of the old village, and many of the sustaining traditional ways, was a painful experience for Grassy Narrows people. The second major disruption was mercury pollution, which had serious, long-term medical, economic, social and cultural ramifications. The effects of this pollution peaked in 1970 when the reserve's fishing trade was prohibited by a government-enforced ban. Since 1970, Grassy Narrows has deteriorated to the point of a "make-work" project, welfare community. In a population of fewer than 1000, 1980 statistics indicated 40 suicide attempts, 7 violent deaths and numerous incidents of juvenile deliquency and adult criminal behaviour (Syer-Solursh et al., 1982).

The Grassy Narrows Crisis Intervention Program is staffed by a leader and three full-time and three part-time crisis intervention workers, all of whom are Natives. There is a supervisory committee of seven "human services workers" which oversees the management of the program. Contact with individuals is made by crisis workers who patrol the reserve; a majority of these contacts involve gas sniffing, adolescents defying curfew and drunkenness. Other incidents investigated include attempted or threatened suicide, domestic problems, abandoned babies, etc. Drop-in counselling is available and used extensively.

An evaluation of the social situation 12 months following the establishment of the Crisis Intervention Program indicated significant decreases in problems; the number of recorded suicide attempts decreased from 40 to 14 and violent deaths dropped from 7 to 3 (the first year a decrease had been noted). The incidence of glue sniffing decreased almost to zero, because a crisis team, given a mandate by the Band council, had enforced the bylaw which forbids the sale of solvents to minors. Deliquency cases dropped from 510 to 62 and training school committal and Children's Aid Society apprehensions decreased by more than 50 per cent. In addition, a great improvement in the relationship between Native peoples and the police, probation officers and other agencies was noted.

In a population of fewer than 1000, 413 have been involved with the crisis team. People on the reserve appear to support the Crisis Intervention Program. In response to a survey, many of the respondents listed the crisis team as the best resource available to them, and indicated that they would definitely contact the team if they were in need of help (Syer-Solursh et al., 1982).

(iv) The Mental Health Program of the Pehtabun Tribal Council

This program, established in May 1981 and funded through the Department of National Health and Welfare, operates from the National Health and Welfare Hospital in Sioux Lookout, Ontario. The following description borrows heavily from Timpson (1982).

The Pehtabun Development Area consists of six Indian reserves, each approximately 200 miles north of the town of Sioux Lookout, and spaced about 50 miles apart. These reserves are Sandy Lake, Deer Lake, North Spirit Lake, McDowell Lake, Pikangikum and Poplar Hill. The reserves have a total population of approximately 3,500. Two teams, each consisting of one full-time and two half-time Native workers, are placed in each of the larger communities of Pikangikum and Sandy Lake and provide

service to the smaller communities which are accessible by air.

The objective of the program is "the attainment of a better quality of personal and family life in these isolated communities by the immediate availability of locally based mental health and counselling services delivered by selected members of the community in the language of the recipients of service" (Timpson, 1982). The following are program activities deemed necessary to meet this objective:

- premarital counselling;
- early intervention in marital difficulties;
- early detection and treatment of psychiatric difficulties;
- general personal counselling;
- outreach counselling services to the bereaved, focusing on assisting with the grieving process, and counselling individuals who have terminally ill relatives; and
- intervention in crisis situations, with specific emphasis on the prevention of suicide.

The program serves individuals of Cree and Ojibway descent, a significant portion of whom are uneducated and speak little or no English and whose subsistance is determined, in part, by traditional practices of hunting, trapping and fishing. Loss of old institutions coupled with unemployment, anomie and a continuous undermining of the male role have led to increasing incidence of domestic violence, early marital breakdown, suicide attempts and depression.

The following services are provided:

(a) Emergency

There are nursing stations with two or three in-patient beds in Sandy Lake and Pikangikum which offer immediate 24-hour emergency consultation for persons in acute psychological distress. Emergency medication and a direct line to psychiatric consultants are also available through the station. During regular working hours, the program supervisor or one of the Native mental health field workers is available by phone at the Zone Hospital at Sioux Lookout.

(b) Regular Support

The program's supervisor offers support and advice through visits to the teams every four to six weeks, as well as through regular telephone contact to discuss ongoing cases or program issues. Native field workers are also available for consultations by telephone. Patients are sometimes referred by the teams for intensive counselling with field staff in Sioux Lookout, in which case they would stay in the hostel at the Zone Hospital and receive counselling as out-patients.

(c) Psychiatric

Both Pikangikum and Sandy Lake have an assigned consulting psychiatrist who visits the reserve twice each year. At the request of the local team or of other health care workers in the community, the psychiatrist will see patients who are particularly difficult to manage, and who may be experiencing serious psychiatric problems or crises which require more extensive treatment. In such cases, the psychiatrist provides assessments, advice, new directions and prescribes medications and other psychiatric treatment. In-patient treatment is also provided at the Zone Hospital, Lakehead Psychiatric Hospital in Thunder Bay and, occasionally, the Clarke Institute of Psychiatry in Toronto.

Although there remains a high rate of suicide attempts in the Pehtabun area in comparison to the rest of the zone, there were no reported suicides in 1981, whereas other areas reported a number of suicides, and few attempted suicides. Research has demonstrated that for every successful suicide in a year, there are at least ten unsuccessful attempts. It is therefore reasonable to deduce that the mental health program in Pehtabun is encouraging individuals in distress to seek help, thereby intervening in the suicidal process.

(v) The Wikwemikong Mental Health Counselling Program

The Wikwemikong Mental Health Counselling Program was developed through a co-operative agreement between the Medical Services Branch of the Department of Health and Welfare and the Wikwemikong Indian Band located on Manitoulin Island. The impetus for its development was the 1975/76 "epidemic" of suicides of young Native persons aged 17 to 31 in Kaboni, a community of approximately 300 people on the Wikwemikong reserve.

The program serves the 2,300 Native residents of the Wikwemikong reserve, which consists of several communities. Wikwemikong, the main settlement, accounts for more than half of the total population; five other communities make up the remainder. Other smaller reserves on the island receive some service from this program.

The reserve is geographically isolated; the nearest town is 20 miles away and the nearest major medical centre is in Sudbury, two and a half hours away by road. The local economy is depressed, thus there is little opportunity for employment on the reserve. These adverse social conditions, combined with poor recreational facilities, create an atmosphere characterized by boredom, alcoholism, and hopelessness.

The objectives of the program are:

- to reduce the number of suicides of young people in the area; and
- to improve the level of mental health in all area residents.

The Wikwemikong program adopts the "pyramid" model of professional manpower deployment, a term coined by Termansen and Peters:

> In this model, a small body of professionals function in a combination of training, consultation, and back-up roles to a larger group of indigenous front-line workers . . . . These indigenous workers are trained in, and will themselves implement, specific aspects of the overall program plan, with professional consultation and back-up available at all times. These workers may even, in turn, be responsible at a later stage for some aspects of the training and supervision of other workers at this, or a lower level of the program. The number of clients that can be reached with a minimum employment of scarce professional resources is thus increased factorially. Existing community resources such as counselling by Band elders and shamans can also be effectively integrated into, and enhanced by such an approach (Termansen and Peters, 1979).

The band employs several front-line professionals of Native origin in the program: two mental health counsellors, one specializing in family and marital counselling, and the other working extensively with high-risk youths, both on an individual and group basis; a public health nurse is in charge of the health unit; and a protection worker looks after the retarded. These workers are responsible for recruiting cases and handling problems in the reserve community. They are backed up by a team of professionals from the psychiatric hospital in Sudbury, which consists of a psychiatric nurse who is a resident on Manitoulin Island and is available at all times, a social worker who is also a resident, and a psychologist and psychiatrist who provide a travelling service from the central hospital. This interdisciplinary team of professionals provide a broad spectrum of assessment and treatment.

Another aspect of the program is Magwa Gani Gamig, the Rainbow Lodge Alcohol Recovery Centre, which is described by Ward:

> This centre is run by Native people for Native people and has a Native board of directors. The adult service includes a recovery program which adapts alcohol programs making them more applicable to Native people. Family outreach programs have also been quite successful. A number of community events in which alcohol is excluded have been scheduled (for example, a New Year's Eve party). Rainbow Lodge also has a very active youth program. This includes education programs on alcohol misuse and positive living (Ward, 1981).

The Wikwemikong program appears to be well accepted and successful in reducing the incidence of antisocial behaviour. This is demonstrated by the large clientele and by the steady increase in the number of self-referrals. In addition, three years following its formation, the incidence of suicide attempts had decreased from 120 to 18, the number of high school drop-outs had decreased from 46 to 24, and the incidence of juveniles placed on probation dropped from 30 to 5.

APPENDIX 9

MODEL POSTVENTION PROGRAMS

(i) Survivor Support Program

The first suicide bereavement model program established in Canada was the Survivor Support Program (SSP) in Toronto, a joint venture of the Clarke Institute of Psychiatry and Distress Centre 1. A management committee was formed in 1978 and in 1979, and with funding assured, a director was hired for the program.

Since the laws of confidentiality in Ontario prohibit coroners from giving names to the SSP, the majority of referrals are a consequence of media exposure, with a minority originating with professionals and mental health services.

The initial interview is conducted by the director, who is responsible for matching the bereaved person with a two-member team of volunteers. Approximately one-third of the volunteers have experienced bereavement from suicide, and have managed to cope with the suicidal death which has occurred at least two years earlier. The remainder are supervised, experienced crisis workers, who are knowledgeable in the areas of attitudes and myths about suicide, stages of grief, children and death, etc.

The bereaved and their team meet weekly for a total of eight two-hour sessions. After the initial eight sessions, the family is given an opportunity to share experiences with other bereaved individuals in a series of meetings. These meetings offer an opportunity for mutual support, interaction and informal contacts.

(ii) The Edmonton Suicide Bereavement Group

The Edmonton Suicide Bereavement Group was in effect for two years, from June 1980 to 1982. It was first established in response to the findings of a bereavement study conducted by the provincial suicidologist, Dr. M. Solomon, which involved interviews with individuals who had experienced the suicide of a family member or a close friend 3 weeks to 15 years prior. The study indicated that 83 of the 93 subjects perceived the initial interview as beneficial, in that it was often the first opportunity to verbalize their feelings about the suicide. In general, the subjects displayed characteristics which have been frequently identified by research: guilt, shame, anger, conspiracy of silence and false assumptions. A majority of the subjects also expressed a need for counselling and sharing of experiences.

Subsequent to an analysis of these results, an open-ended core group was formed which later transformed to a series of closed groups. People from the core group who managed to resolve their feelings about suicide, and displayed an understanding of the grieving process, remained available to provide assistance for the new groups.

The groups consisted of four to eight members, including a core group member and one or two health care professionals, which met weekly for a total of eight sessions. The sessions focused on providing the forum to discuss the suicide in a mutually supportive atmosphere. The objective was to facilitate a healthy bereavement process and to encourage compliance with therapy from other professional services, if deemed necessary. Recruitment occurred in a variety of ways; the original contacts were made by individuals responding to media stories, but the most consistent source of referrals became the Medical Examiner's Office.

(iii) The S.A.F.E.R. Suicide-Bereavement Support Program

The S.A.F.E.R. Suicide-Bereavement Support Program in Vancouver developed as the result of a workshop on bereavement held in 1981 by Dr. Paul Termansen and Linda Rosenfeld. The program, which is affiliated with S.A.F.E.R., Vancouver's Suicide Attempt, Follow-up, Evaluation and Research Service, involves three overlapping steps: individual counselling, workshops and support groups.

Following an initial assessment which determines the appropriateness of an individual for the program, individual counselling is offered during the waiting period for a scheduled workshop. The individual counselling sessions often provide the first opportunity for the newly bereaved to discuss the suicide. The people who come into contact with the S.A.F.E.R. bereavement program are often in acute stages of grief, and the counselling provides an opportunity to sort out confused feelings and thoughts which may contribute to getting stuck in the grieving process, particularly if the loss is recent or if they were close to the deceased.

One-day workshops are held every two months for a group of 10 to 12 people to provide general information on suicide and structured exercises designed to improve the individual's understanding of the death and remaining interpersonal relationships. Approximately four weeks after the workshop, a half-day follow-up workshop provides an opportunity to share changes in attitudes or feelings, and to develop supportive relationships within the group. At this point, the members of the workshop are invited to attend a monthly, mutual-support group, which encourages the participation of family members who have not had contact with the program in order to share information on issues such as anniversaries of the suicide, birthdays, and holidays, as well as to provide mutual support. The group is semi-structured, sometimes breaking into smaller groups to deal with specific issues. A professional is present at all meetings.

(iv) The Calgary Bereavement Group

The Calgary Bereavement Group was initiated in 1981 and operates under the auspices of the Calgary region of the Canadian Mental Health Association. The primary source of referral is self-referral, the Calgary City Police Crisis Unit and funeral homes. Upon initial contact, the individual is interviewed about past experiences with death, professional consultations, contacts with officials, social support networks, etc., to determine if the group meets the need of the individual. If it is decided that the person requires more intensive counselling than is provided by the group, a referral is made to an alternate agency.

Group sessions are held once a week in the evening for a period of five to eight weeks. The groups consist of five to eight members and a facilitator who is knowledgable about both the grieving process and suicide, and takes an active part in the group for the first five weeks. Thereafter, the group members may meet without this leadership, although the facilitator remains available for consultation. After the initial set of sessions, the group is opened, with members coming and going when ready.

During the first group session, each member relates his/her personal experience with suicide. This procedure is followed in most suicide bereavement groups, based on the assumption that most members have not had an opportunity to discuss the suicide in a non-judgmental context apart from the initial interview.

Although the first session is fairly structured, subsequent ones follow a less structured format. The main objective of the group is to cover such issues as medical examination, suicide in general, open communication, and the requirement to face the pain of grief.

(v) The Suicide Bereavement Program

The Suicide Bereavement Program of A.I.D. in Edmonton was established in 1982 and funded by the Alberta Ministry of Social Services and Community Health.

The program provides two major services with the following objectives:

(a) The Home Visit:

- to provide an opportunity for the client to discuss the person lost to him/her through suicide;
- to assess the client's present and future needs, whether these involve individual and/or group counselling, financial advice, or job training, and to make appropriate referrals for help within the community; and
- to assess the client's own risk to suicide.

(b) The Suicide Bereavement Group:

- to encourage the client to tell his/her story to enable him/her to come to terms with personal concerns related to death, dying, and suicide; this may require a description of the events preceding the death, of the death itself, and subsequent events.
- to allow the client to work through the often misunderstood feelings of guilt, remorse, anger and sadness;

- to assess the client's present and future needs, whether these involve personal counselling, financial advice, or job training and to make appropriate referrals within the community;
- to provide an opportunity for members to participate in mutual support and assistance throughout the grieving process, both within and outside the group;
- to facilitate the integration of the suicide event as one reality of the individual's life, not as the continuing focus for the future; and,
- to encourage the client to respond to the suffering in a creative way and to make positive plans for the future.

Trained volunteers and professional staff are involved in both the home visit and group aspects of the Suicide Bereavement Program.

(vi) The Windsor, Ontario Bereavement Resources

The Windsor, Ontario Bereavement Resources was initiated by a Canadian Mental Health Association program in 1975, and sponsored by the Ontario Ministry of Health. The program offers support to grieving persons either through individual or group counselling. It offers services to several special needs groups, one of which is the bereaved by suicide. The groups usually meet on a weekly basis for approximately 12 sessions.

APPENDIX 10

TOWARD THE DEVELOPMENT OF A SYSTEMATIC APPROACH TO SUICIDE PREVENTION: THE ALBERTA MODEL*

by Menno Boldt, Ph.D.

Introduction

In March 1982, in Canada's Mental Health (Vol. 30, No. 1), I reported on the Alberta Task Force (Boldt Report) proposals for suicide prevention. This paper briefly outlines the unique model that has been adopted to provide suicide prevention, intervention and postvention services in Alberta.

In August 1981, the Minister of Social Services and Community Health established the Suicide Prevention Provincial Advisory Committee (S.P.P.A.C.). This Committee was created to advise the Minister of Social Services and Community Health on the development of programs for suicide prevention, intervention and postvention, and to make recommendations for funding such programs. To allow S.P.P.A.C. to fulfill its mandate, an allocation of $800,000 per annum was made to suicide prevention.

The programs that have been funded are presented under three headings: "Outreach", "Education and Training" and "Research". A related initiative taken by S.P.P.A.C. is described under the heading "Fund Raising".

Outreach

Responding to the high rates of suicide experienced by the smaller cities of Alberta, S.P.P.A.C. targeted Alberta's five secondary urban centres, with populations ranging from 35,000 to 55,000, for its first outreach program initiatives. Based on information received from helping agencies and the public during its meetings in the five communities, S.P.P.A.C. designed a model program for coordinating existing community agencies to provide basic suicide prevention, intervention and postvention services.

Community Interagency Suicide Prevention Program (C.I.S.P.P.)

For the purpose of the C.I.S.P.P. model, suicide prevention was defined as public education and gatekeeper training; intervention was operationalized in terms of a 24-hour suicide and crisis telephone counselling service complemented by medical/psychiatric services, professional counselling, volunteer-based follow-up, a mobile outreach capability and a temporary care facility; postvention refers to suicide bereavement counselling. Collectively, these are designated as the "core" service elements in the C.I.S.P.P. model.

A basic underlying philosophy of the C.I.S.P.P. concept is that a specialized service aimed at a specific problem such as suicide must not be isolated from other community helping services. In other words, the problem of suicide must not be "franchised" to one particular agency; it must be viewed as a total community responsibility. Thus, the C.I.S.P.P. concept is designed to ensure that all core service elements are provided in the framework of a coordinated interagency network. "Coordination" here refers to a voluntary and reciprocal interagency exchange of resources within a systematically and formally structured network. This involves an enlargement of some agency roles, functions and competences. This, in turn, requires negotiation of roles and functions and the provision of appropriate staff training, but it does not require participating agencies to relinquish any autonomy.

The C.I.S.P.P. model comprises three key components for the delivery of suicide prevention, intervention and postvention services. These components are an interagency council, a host agency and a program coordinator. Each has a very distinct role to play in the program.

The Interagency Council is the main vehicle for coordinating core services and for overseeing program development, implementation and operation. It is composed of representatives from those agencies in the community that, collectively, are able to provide all core service elements. These agencies (consisting usually of a crisis line, community mental health service, general counselling service, social service, hospital emergency and psychiatric service, ambulance, police and volunteer follow-up service) are designated the "core agencies".

Interagency Council members have the responsibility to establish ground rules and procedures for interagency coordination, networking, record-keeping, referral, information-sharing and confidentiality. They work to ensure that each participating agency performs its agreed-upon core role and functions within the framework of coordinated service delivery. They also identify gaps in core services, set policies for filling any gaps, and set priorities for funding core services consistent with short-term objectives and long-term objectives and goals.

The Host Agency is designated to carry out the developmental work leading up to the implementation of the C.I.S.P.P. concept. It prepares the annual suicide prevention budget, ensures that funds are properly administered, and provides for periodic evaluation and reporting on program activities. As a member of the Interagency Council, the Host Agency plays a key role in attaining the needed level of interagency cooperation a coordination.

Each C.I.S.P.P. has a Program Coord nator. The role of the Program Coordinato to serve as the executive arm of the Inter agency Council, and as a resource person this capacity, the Program Coordinator gathers information about suicide service needs, promotes education and training of gatekeepers, enhances public knowledge a use of the interagency referral network, ar raises public awareness and knowledge of self-destructive behaviour. The Program Coordinator is placed in a position of dual responsibility – to the Host Agency for administrative and fiscal matters, and to the Interagency Council for program-relate matters.

The C.I.S.P.P. concept offers several positive features:

- It allows the core agencies to develop specialized competence for each core function without isolating one service from the others.
- It reduces confusion resulting from overlapping services, client-sharing and refer shuttles.
- It provides multiple points of entry, while ensuring that all clients will benefit from appropriate network resources.
- It provides crisis and chronic, short- and long-term, professional and volunteer, medical, psychological, and social suppor services.
- It is an economical, as well as "politically" acceptable way of providing suicid prevention, intervention and postvention services within a community.

Interagency councils, host agencies and program coordinators have found much inter est and support in their task amongst profes sionals, volunteers, other agency personnel and the general public. Interest and support are growing as the program evolves.

During the period which followed the initiation of the C.I.S.P.P. concept, the suicide rate in the five secondary urban centres dropped from 25.1 to 12.4 per 100,000, while the province-wide rate has increased by 3 per cent. This may be an indicator that the C.I.S.P.P.s are having some impact. There are also many documented cases of lives being saved, and we know that many more suicidal persons now receive help from trained gatekeepers. However, a more conclusive statement about effectiveness will have to await further and longer-term data collection.

Education and Training

The approach taken by the S.P.P.A.C. to meet the need for training and education has been to fund "provincial" programs that are designed to meet "local" needs. Three major projects have been funded.

* Canada's Mental Health, 1985, 3 (2), 2-4.

The Suicide Information and Education Centre (S.I.E.C.)

This centre was founded by the Canadian Mental Health Association (C.M.H.A.) and is administered under a S.P.P.A.C. grant to the Alberta Division. The purpose of the Centre is to make available to gatekeepers, researchers and the general public, a comprehensive information base on suicide prevention, intervention and postvention, and to maximize convenience and speed in gaining access to needed information. The information base is accessible directly by remote computer terminal, by telephone, and by mail; it can also be accessed through Q.L. Systems Limited.

Many articles, books, films, videos and other forms of information on self-destructive behaviour are housed at the Centre in Calgary. For items entered in the information base but not housed in the Centre, a location is given, and most items can be obtained through inter-library loan networks. The information base can be accessed by subject, using a thesaurus of subject terms; by author; by date; by document type; and by a "free text" method in the title or abstract fields. At the time of writing, over 7,000 items, published in the English language since 1955, were entered in the information base.

Additional services to S.I.E.C. users include a Human Resource file of agencies and individuals active in suicide research, therapy, direct service, training and education; a "Current Awareness Service" consisting of a printout of all new additions to the information base, news of conferences, workshops and so on; a document delivery service of most items entered into the information base; a literature search service; a newspaper clipping subscription service; and an information exchange function.

Although funded by the Government of Alberta and designed for the use of Albertans, the development of S.I.E.C. represents international cooperation and participation. Consequently, no geographical restrictions are placed on those wishing to use or contribute to S.I.E.C. However, a charge sufficient to cover incurred costs is made for services to out-or-province users.

Suicide Prevention Training Program (S.P.T.P.)

Like the Suicide Information and Education Centre, the Suicide Prevention Training Program (S.P.T.P.) was founded by the Canadian Mental Health Association and is administered under a S.P.P.A.C. grant to the Alberta Division. The two programs are closely allied and operate under one director. The Suicide Prevention Training Program is mandated to provide training in suicide prevention, intervention and postvention to gatekeepers throughout Alberta.

The first training program to be developed and field-tested by S.P.T.P. consists of a two-day workshop in the "fundamentals" of suicide prevention. It comprises three sequential modules dealing respectively with attitudes, knowledge and skills. This foundation workshop is intended to prepare gatekeepers to recognize suicidal symptoms, assess risk and undertake appropriate management or referral of persons at risk. The modules are undergoing continuing revisions in response to field experiences.

The Suicide Prevention Provincial Advisory Committee (S.P.P.A.C.) has allocated funding to S.P.T.P. to undertake the development of two specialized training curricula, one dealing with counselling for those bereaved by suicide, the other dealing with youth suicide prevention, for use in schools. Additional special curricula dealing with high-risk groups are envisioned for the future.

There is a very important reciprocal relationship between the provincial programs, S.I.E.C. and S.P.T.P., on one hand, and the local Community Interagency Suicide Prevention Programs (C.I.S.P.P.) on the other. The primary purpose of the two provincial programs is to enhance the life-saving capabilities of local frontline workers. The local C.I.S.P.P.s, in turn, facilitate the task of S.I.E.C. and S.P.T.P. by systematically promoting these important suicide prevention training and education services in their regions.

Native Suicide Prevention Training Program (N.S.P.T.P.)

Recognizing the cultural uniqueness, social segregation and geographical isolation of Native peoples, and their general reluctance to seek help from "white" agencies, the S.P.P.A.C. decided that suicide prevention in Native communities would be best served if Native peoples developed their own approaches to it.

To facilitate such a process, the Native Counselling Service of Alberta (N.C.S.A.) was funded to develop and field-test a suicide prevention training program addressed to the specific needs of Native peoples. They have produced a training manual consisting of four modules dealing with attitudes, crisis intervention techniques, bereavement counselling, and raising awareness of the need for suicide prevention. In the next phase of this project, N.C.S.A. staff will select and prepare trainers from the various Native communities in the use of the training materials. These Native trainers will then conduct suicide prevention workshops for gatekeepers in their own communities, and serve as resource persons.

Research

It is generally acknowledged that suicide and self-destructive behaviour need more study. As suicide prevention programs evolve and mature, one of many research needs will be for evaluative research to measure and improve the effectiveness of these new programs. More urgently, there is a prior need to develop a comprehensive data base on suicide and self-destructive behaviour. As a first step to meeting these needs, the University of Calgary was funded through the S.P.P.A.C. to produce a detailed development plan, implementation proposal, and cost estimates for the establishment of a research centre. The completed proposal calls for a multidisciplinary research centre to undertake basic, applied and clinical research. Possible strategies for obtaining funding for the proposed centre are currently being considered.

Concurrent with the research centre development grant, a sufficient allocation was given to the University of Calgary for acquisition of an extensive library collection consisting of academic titles. This collection has been assembled and is catalogued in S.I.E.C.'s on-line data base.

Fund-raising

The current status of suicide prevention funding indicates a need for a high-profile, independent, non-profit society to raise funds from the general public and the corporate/business sectors, in order to complement and supplement government funds for suicide prevention programs. Such an organizational approach to fund-raising has proven highly successful for campaigns focused on heart disease, cancer and a variety of other causes. However, it was not certain that the public would be willing to contribute the required volunteer hours and money for a successful fund-raising compaign for suicide prevention.

Given this large, unanswered question, the S.P.P.A.C. initiated a pilot project to test the feasibility of a community fund-raising campaign for suicide prevention. The Canadian Suicide Prevention Foundation was created as the organizational structure to pilot and evaluate such a fund-raising campaign. The pilot project had three objectives: to develop an organization to carry out and evaluate a multifaceted fund-raising campaign (door-to-door, mail-out, special events, service clubs and rural area solicitations); to conduct a carefully conceived public education program; and to systematically collect information on a range of variables related to volunteer participation and public response. Lethbridge, one of Alberta's secondary urban centres was selected for the pilot project. A total of 320 volunteers participated, raising $13,242.00 in a one-week campaign, and providing the viability of such an undertaking.

Discussion

It would be wrong to leave the impression that the job of suicide prevention has now been accomplished in Alberta. At best, we have made a promising start. The rural areas represent a special unmet challenge. Here, we envision establishing a province-wide 24-hour suicide intervention program. This program will consist of a centralized, toll-free telephone counselling service linked to locally based 24-hour on-call trained professional and volunteer support networks. Training will be provided by the S.P.T.P.

Self-destructive behaviour is the only life-threatening problem for which there are no clearly identified and properly staffed services. People who feel suicidal or have someone close to them who feels that way often do not know where to find competent help. In Alberta we are attempting to correct this deficiency by developing effective, high-profile, community interagency suicide prevention, intervention and postvention networks, backed up by province-wide education, training, research and fund-raising programs.

APPENDIX 11

CANADIAN SUICIDE RATES

Tables A-1 through A-39 are based on information provided by Statistics Canada, Vital Statistics and Health Status Section, Ottawa.

Particular caution should be taken when interpreting tables A-34 to A-39 because the accuracy of the suicide rates in the Yukon and Northwest Territories is distorted by their small population base.

A single dash (—) in a cell of a table indicates that there were no suicides for that age group in the specified year. A double dash (– –) indicates that suicide was present but the rate per 100,000 was less than .05.

Table A-1 Canada: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	To
1960	0.3	3.3	7.3	9.9	9.7	9.5	10.7	14.9	16.5	18.4	19.1	15.4	12.7	
1961	0.4	2.3	5.7	7.0	8.6	10.2	12.8	16.0	17.7	17.6	19.0	19.7	13.8	
1962	0.6	3.2	6.8	8.1	9.2	10.1	10.9	14.5	18.4	18.3	17.3	13.8	9.2	
1963	0.7	3.9	8.1	8.4	9.8	11.3	12.8	13.3	17.5	17.1	17.6	15.1	11.6	
1964	0.6	3.5	7.7	9.2	12.2	12.3	13.7	16.1	19.4	19.7	20.1	15.8	10.8	
1965	0.8	3.7	8.3	9.7	11.4	13.1	14.8	15.3	21.0	20.7	21.9	19.6	11.1	
1966	0.9	3.7	9.1	10.8	9.9	13.7	13.0	16.7	20.2	22.2	18.1	14.5	11.4	
1967	0.6	5.0	10.1	11.5	12.8	12.4	16.7	16.9	17.9	21.2	17.1	18.2	9.9	
1968	0.8	4.6	10.9	12.2	13.4	15.1	17.8	16.9	20.6	22.2	19.5	18.5	9.9	
1969	0.7	6.2	13.9	12.4	12.9	16.4	18.5	22.2	21.7	24.4	20.8	15.6	13.4	
1970	0.7	7.0	14.0	13.8	15.3	18.2	19.7	21.2	21.3	22.6	19.9	19.6	11.0	
1971	0.7	7.9	14.4	14.1	15.6	17.3	21.8	22.0	23.8	23.3	22.1	16.3	10.9	
1972	1.0	9.3	16.9	16.9	16.0	17.6	21.2	20.5	22.4	20.0	18.3	16.8	10.6	
1973	1.0	9.1	16.6	15.5	15.5	18.7	17.5	23.0	21.5	23.7	24.6	21.5	9.8	
1974	0.7	10.8	19.0	17.6	15.1	19.3	20.3	20.9	23.2	19.5	18.5	19.2	12.1	
1975	0.9	10.1	18.8	16.8	13.1	17.5	19.1	18.9	21.0	19.9	17.7	19.9	9.6	
1976	1.0	10.7	18.6	18.1	17.2	16.3	19.6	21.0	20.7	19.3	17.9	13.6	10.1	
1977	1.4	12.6	22.6	18.5	17.5	19.9	18.7	22.3	24.8	20.5	17.5	19.6	10.6	
1978	1.4	12.0	22.2	22.1	19.0	18.1	21.7	21.5	21.8	21.3	20.7	18.0	10.6	
1979	1.1	12.9	21.7	18.8	17.3	17.7	20.9	21.9	20.5	21.0	20.3	18.4	9.4	
1980	1.1	11.8	18.8	20.3	17.2	17.1	16.8	22.2	22.1	19.3	20.6	18.4	13.2	
1981	1.8	12.7	19.6	16.1	17.7	16.4	20.1	19.6	21.3	21.9	17.1	17.5	13.7	
1982	1.4	12.6	19.1	20.5	18.1	17.3	18.4	20.6	22.2	22.3	17.5	17.5	11.9	
1983	1.2	13.4	19.8	20.5	19.3	17.3	20.8	22.0	19.4	21.9	21.2	19.3	14.5	
1984	1.5	12.3	18.8	17.3	17.4	16.2	18.6	17.1	22.1	21.0	17.7	16.0	12.4	
1985	0.9	11.2	17.7	16.8	16.7	15.9	17.0	17.7	17.8	18.2	15.5	16.2	15.8	

Table A-2 Canada: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Tota
1960	0.1	1.2	2.4	4.0	4.1	3.2	4.5	5.8	7.6	7.1	8.4	6.2	5.7	3.0
1961	—	0.9	2.5	2.9	4.3	4.7	4.5	9.0	6.9	7.0	4.8	7.3	3.8	3.0
1962	0.2	1.4	2.6	3.6	5.3	5.0	5.2	6.9	7.4	6.5	6.1	6.0	3.3	3.1
1963	0.1	2.4	3.2	5.3	5.2	5.9	5.9	7.3	10.7	8.7	5.6	7.1	4.8	3.8
1964	0.1	1.7	3.7	4.9	6.4	7.8	6.7	8.0	11.0	10.8	6.4	8.5	3.5	4.1
1965	0.3	1.8	2.9	4.5	7.5	7.9	8.0	9.3	10.9	10.4	10.3	8.7	5.9	4.5
1966	0.1	1.3	3.0	6.3	4.9	8.5	6.6	10.2	11.0	13.9	9.0	4.7	4.2	4.3
1967	0.2	1.5	4.1	6.0	7.5	7.2	12.0	9.1	10.2	11.0	8.2	8.8	4.8	4.8
1968	0.3	1.3	5.3	5.9	7.3	10.3	12.1	9.8	13.7	9.0	8.5	10.0	5.3	5.2
1969	0.3	1.8	6.4	7.2	8.4	9.3	11.2	15.5	13.5	15.2	13.5	9.3	5.2	6.2
1970	0.3	3.8	5.8	8.2	9.4	9.7	11.9	15.1	13.9	13.2	8.9	11.2	5.5	6.4
1971	0.4	3.1	5.7	5.7	10.2	9.9	13.2	14.9	14.6	13.3	11.1	9.6	6.1	6.4
1972	0.5	4.3	5.7	11.2	9.3	11.8	14.7	12.2	13.1	12.6	9.8	10.8	6.7	6.9
1973	0.3	4.3	5.9	9.5	10.1	9.9	9.5	15.2	13.0	15.3	14.7	13.3	7.7	7.1
1974	0.3	3.2	6.7	9.9	9.1	12.9	11.2	13.8	15.7	13.5	12.1	11.6	5.7	7.1
1975	0.3	4.2	7.9	8.5	7.4	11.6	13.0	13.5	13.2	11.9	8.1	12.1	5.7	6.8
1976	0.4	4.3	8.2	7.8	11.8	11.0	12.2	13.7	11.2	14.0	11.1	8.6	6.6	7.2
1977	0.7	4.7	7.1	9.4	8.9	10.9	9.4	14.3	15.6	13.4	12.6	11.1	6.2	7.3
1978	0.5	4.4	7.1	9.8	8.3	9.3	14.0	11.1	14.1	13.0	13.4	11.5	7.3	7.3
1979	0.7	4.9	8.4	8.3	7.5	10.8	11.0	10.8	15.0	11.7	8.5	10.6	6.9	7.0
1980	0.6	3.8	7.0	8.2	8.0	8.7	8.8	12.9	14.5	10.9	13.6	9.6	7.3	6.8
1981	1.0	3.8	5.9	6.9	8.1	8.5	12.1	11.9	12.7	13.6	8.9	11.0	8.0	6.8
1982	0.4	3.2	6.2	8.0	8.0	10.0	9.9	10.5	11.7	12.9	8.5	8.9	5.6	6.4
1983	0.3	3.7	5.2	7.6	8.7	10.4	11.6	14.0	10.9	11.2	11.5	11.0	7.3	6.9
1984	0.4	3.2	5.2	6.5	7.7	7.6	11.2	9.0	12.0	10.9	10.4	9.9	6.1	6.1
1985	0.6	3.6	4.2	6.1	7.0	7.8	8.3	10.4	7.6	8.8	7.3	8.0	6.2	5.4

Table A-3 Canada: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	0.6	5.3	12.3	15.7	15.1	16.0	16.8	23.7	24.8	29.1	29.8	24.8	25.9	12.0
1961	0.8	3.7	9.0	11.1	12.9	15.8	21.1	22.7	28.0	27.6	33.2	32.5	28.8	11.9
1962	1.0	5.1	11.1	12.6	13.0	15.4	16.7	22.0	29.0	29.5	28.5	22.0	19.3	11.2
1963	1.2	5.3	13.1	11.5	14.2	16.7	19.7	19.2	24.0	25.1	29.5	23.5	24.6	11.4
1964	1.2	5.3	11.7	13.5	17.7	16.6	20.7	24.1	27.5	28.4	33.7	23.6	23.0	12.3
1965	1.2	5.5	13.7	14.9	15.2	18.2	21.7	21.2	30.8	30.8	33.4	31.2	23.8	12.9
1966	1.7	6.0	15.3	15.3	14.8	18.8	19.5	23.2	29.3	30.2	27.3	25.1	24.9	12.8
1967	0.9	8.5	16.1	17.1	18.0	17.5	21.3	24.1	25.5	31.2	26.3	28.5	21.9	13.2
1968	1.2	7.8	16.4	18.7	19.4	19.8	23.4	24.9	27.5	35.3	30.7	27.8	22.1	14.2
1969	1.0	10.4	21.3	17.6	17.4	23.2	25.8	29.0	30.0	33.6	28.3	22.5	30.4	15.6
1970	1.2	10.1	22.3	19.3	21.1	26.5	27.3	27.4	28.8	32.1	31.3	28.8	25.2	16.2
1971	1.1	12.7	23.1	22.2	20.7	24.5	30.1	29.2	33.3	33.4	33.5	23.6	25.3	17.3
1972	1.4	14.2	28.1	22.6	22.4	23.3	27.5	28.9	32.0	27.6	27.2	23.3	24.7	17.2
1973	1.6	13.6	27.2	21.5	20.6	27.1	25.1	30.8	30.4	32.5	34.9	30.5	23.0	18.0
1974	1.1	18.0	31.2	25.3	20.8	25.5	28.9	27.9	31.1	25.8	25.2	27.7	28.4	18.7
1975	1.6	15.8	29.6	25.1	18.6	23.2	24.8	24.1	29.1	28.4	27.9	28.5	22.9	17.8
1976	1.5	16.8	29.0	28.3	22.5	21.6	26.7	28.2	30.7	25.0	25.2	19.2	24.0	18.4
1977	2.0	20.2	38.0	27.6	26.0	28.6	27.7	30.2	34.4	28.2	22.9	29.3	25.4	21.2
1978	2.2	19.4	37.1	34.3	29.6	26.6	29.3	31.7	29.8	30.3	28.7	25.5	30.6	22.4
1979	1.5	20.6	34.9	29.4	27.0	24.4	30.5	32.8	26.2	31.0	33.5	27.3	22.7	21.4
1980	1.5	19.4	30.4	32.5	26.2	25.4	24.7	31.4	29.9	28.5	28.5	28.6	32.0	21.3
1981	2.5	21.2	33.2	25.5	27.3	24.2	28.0	27.1	29.9	30.8	26.2	25.1	33.6	21.3
1982	2.4	21.5	32.0	33.2	28.2	24.4	26.8	30.5	32.6	32.3	27.6	27.6	29.2	22.3
1983	2.1	22.7	34.2	33.5	30.1	24.2	29.8	29.8	27.9	33.1	32.2	29.1	36.1	23.4
1984	2.4	21.0	32.0	28.3	27.2	24.8	25.9	25.2	32.1	31.5	25.8	23.2	31.6	21.4
1985	1.3	18.4	30.8	27.5	26.5	23.9	25.6	25.0	28.0	27.9	24.9	25.9	30.1	20.5

Table A-4 Newfoundland: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	6.6	7.5	7.8	4.0	4.2	4.7	—	—	—	—	18.0	2.7
1961	—	4.6	3.3	—	3.9	8.1	8.3	4.6	17.0	7.5	8.8	—	,	3.7
1962	—	—	3.2	—	3.8	—	4.1	—	—	21.6	—	10.1	11.3	1.9
1963	—	—	3.0	3.7	11.4	4.0	8.2	8.8	5.3	20.7	8.5	—	5.6	3.4
1964	—	2.0	6.0	10.9	3.8	7.9	16.5	8.7	10.2	—	—	—	—	3.5
1965	—	—	5.8	7.2	7.8	19.8	—	21.6	4.9	12.6	8.3	19.8	5.4	4.7
1966	—	—	2.8	10.7	7.9	4.0	—	17.3	4.8	6.1	—	9.7	5.3	3.0
1967	—	—	5.2	—	3.9	8.0	8.4	—	—	5.9	15.7	—	—	2.0
1968	—	—	—	10.0	—	4.0	4.2	—	—	—	—	—	5.1	1.2
1969	—	—	2.3	3.2	—	—	—	4.3	—	5.4	7.2	—	5.0	1.2
1970	—	4.9	—	9.5	15.8	21.1	4.3	8.7	22.9	—	6.9	—	4.9	4.8
1971	—	1.7	2.2	2.9	7.3	7.9	8.4	8.7	4.6	20.3	6.6	17.8	—	3.6
1972	—	—	2.1	2.7	3.5	—	20.8	13.0	4.5	10.0	—	8.6	—	2.8
1973	—	1.6	14.2	—	10.2	7.8	4.1	—	13.2	25.0	12.0	8.6	4.6	4.8
1974	—	—	1.9	—	—	3.9	—	4.4	4.4	10.1	—	16.7	13.8	2.2
1975	—	1.6	7.2	7.1	3.2	7.8	4.1	4.3	9.3	14.8	—	7.9	—	3.5
1976	—	3.2	1.9	2.2	5.6	7.3	8.1	8.6	9.0	14.4	16.5	7.3	—	3.8
1977	—	3.1	3.7	6.4	5.2	3.6	8.1	13.1	13.6	4.7	—	13.8	—	3.7
1978	—	—	9.4	4.1	2.5	3.4	8.0	4.2	—	9.2	5.4	—	—	2.6
1979	—	4.7	5.5	4.1	4.6	3.2	3.9	20.7	8.9	4.7	16.1	12.4	—	4.4
1980	1.6	4.7	5.4	—	8.7	3.1	3.8	8.2	8.7	4.8	5.2	—	—	3.3
1981	—	4.8	11.7	6.1	6.6	—	7.5	4.2	17.7	4.8	—	—	—	4.2
1982	—	8.0	6.2	13.1	—	11.0	16.8	4.4	19.1	—	—	—	14.2	6.0
1983	—	9.6	9.4	4.1	10.7	12.7	10.3	4.2	—	—	29.4	5.9	6.8	6.2
1984	1.7	13.0	12.7	2.0	12.7	7.2	—	8.1	17.5	9.4	14.9	5.8	3.3	6.7
1985	1.7	—	1.8	4.1	4.2	4.6	12.7	7.9	8.8	13.8	10.3	11.4	—	4.0

Table A-5 Newfoundland: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	7.9	—	—	—	—	—	—	—	—	8.5	0.4
1961	—	—	—	—	—	—	—	—	12.5	—	17.8	—	8.7	1.3
1962	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1963	—	—	—	—	8.0	—	—	9.3	11.4	29.4	—	—	—	2.2
1964	—	4.1	—	—	—	—	—	—	—	—	—	—	—	—
1965	—	—	—	7.5	—	—	—	9.2	—	—	—	—	—	0.8
1966	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1967	—	—	5.1	—	—	—	—	—	—	—	16.4	—	—	0.8
1968	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1969	—	—	—	—	—	—	—	10.9	—	11.5	—	—	—	0.4
1970	—	6.6	—	—	—	—	—	—	—	—	—	—	—	0.8
1971	—	—	—	—	—	8.3	8.7	—	—	21.6	—	—	—	1.6
1972	—	—	—	5.5	—	—	17.4	—	9.5	—	—	—	—	1.5
1973	—	—	4.0	—	—	—	—	—	9.2	21.3	—	—	—	1.5
1974	—	—	—	—	—	—	—	—	9.3	—	—	—	12.0	0.8
1975	—	3.2	—	—	—	—	—	—	—	—	—	—	—	0.4
1976	—	—	3.8	—	—	7.6	—	—	—	—	11.2	—	—	1.1
1977	—	—	3.8	—	—	—	—	—	9.3	—	—	—	—	0.7
1978	—	—	3.8	4.1	—	6.9	8.3	—	—	—	—	—	—	1.4
1979	—	—	—	—	—	—	—	8.6	—	—	—	—	—	0.4
1980	—	—	—	—	—	—	—	8.5	—	—	—	—	—	0.4
1981	—	—	—	4.0	4.4	—	7.7	—	—	9.7	—	—	—	1.4
1982	—	—	3.9	—	—	—	—	—	—	9.7	—	—	—	0.7
1983	—	6.5	3.7	—	4.3	5.1	—	—	—	—	9.9	—	—	2.1
1984	—	6.6	—	—	—	4.9	—	—	9.1	—	—	—	—	1.4
1985	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table A-6 Newfoundland: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	13.0	7.1	14.9	7.6	7.9	8.9	—	—	—	—	36.1	4.8
1961	—	9.1	6.5	—	7.5	15.4	15.6	8.8	20.8	14.3	—	—	23.3	6.0
1962	—	—	6.2	—	7.4	—	7.8	—	—	41.1	—	20.4	22.7	3.8
1963	—	—	6.1	7.1	14.6	7.6	15.6	8.3	—	13.0	16.9	—	11.2	4.5
1964	—	—	12.0	21.1	7.3	15.0	31.2	16.5	19.2	—	—	—	—	6.5
1965	—	—	11.8	7.0	14.9	37.9	—	32.8	9.3	23.5	16.1	40.0	10.9	8.4
1966	—	—	5.7	21.0	15.2	7.6	—	32.8	9.2	11.4	—	19.6	11.0	5.9
1967	—	—	5.2	—	7.6	15.4	16.0	—	—	11.0	15.2	—	—	3.1
1968	—	—	—	20.0	—	7.7	8.0	—	—	—	—	—	10.8	2.3
1969	—	—	4.5	6.4	—	—	—	8.3	—	—	13.7	—	10.3	1.9
1970	—	3.3	—	19.2	30.8	40.7	8.2	16.9	43.9	—	13.0	—	10.4	8.7
1971	—	3.3	4.5	5.7	14.2	7.5	8.0	16.6	8.8	19.2	12.6	35.5	—	5.6
1972	—	—	4.2	—	6.9	—	24.0	25.0	—	18.9	—	16.9	—	4.1
1973	—	3.1	24.5	—	20.1	14.9	7.9	—	16.9	28.3	23.0	16.9	10.0	8.0
1974	—	—	3.8	—	—	7.6	—	8.5	—	19.2	—	32.8	30.3	3.6
1975	—	—	14.2	14.3	6.3	15.0	7.9	8.3	17.9	.3	—	15.6	—	6.4
1976	—	6.2	—	4.3	11.0	7.1	15.5	16.7	17.5	28.0	21.6	14.3	—	6.4
1977	—	6.1	3.7	12.6	10.3	6.9	15.6	25.4	17.7	9.1	—	27.4	—	6.6
1978	—	—	14.8	4.1	4.8	—	7.8	8.1	—	17.9	10.8	—	—	3.8
1979	—	9.2	10.9	8.1	9.1	6.3	7.6	32.0	17.4	9.1	31.9	25.0	—	8.2
1980	3.1	9.2	10.7	—	17.2	6.0	7.4	7.9	17.1	9.3	10.3	—	—	6.1
1981	—	9.4	24.0	8.2	8.7	—	7.3	8.1	34.5	—	—	—	8.1	7.0
1982	—	15.8	12.0	12.5	26.2	—	21.3	32.6	8.6	28.2	—	—	32.0	11.2
1983	—	12.6	15.2	8.3	17.1	20.0	20.3	8.1	—	—	48.5	12.2	15.2	10.3
1984	3.3	19.2	25.2	4.2	25.6	9.5	—	15.9	25.4	18.7	29.7	11.9	7.4	12.0
1985	3.3	—	3.5	8.3	8.5	9.1	25.0	15.4	17.2	27.3	20.6	23.3	—	7.9

Table A-7 Prince Edward Island: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	11.4	—	—	37.7	17.5	—	18.5	20.8	—	—	57.1	18.0	7.8
1961	—	—	—	—	—	17.5	35.1	17.8	—	—	—	55.6	11.6	6.7
1962	—	—	30.3	16.1	—	—	—	—	—	—	—	26.3	11.3	3.7
1963	—	—	15.2	16.4	—	17.5	—	—	58.8	—	—	—	5.6	5.6
1964	—	10.2	—	—	17.2	17.5	17.5	17.8	37.0	46.5	27.0	—	—	11.0
1965	—	9.5	—	—	—	—	—	17.8	—	22.2	27.0	—	5.4	5.5
1966	—	—	—	17.5	36.4	—	35.7	—	—	43.5	—	27.8	5.3	7.4
1967	—	—	—	—	—	37.7	18.2	37.0	55.6	—	—	—	—	9.2
1968	—	8.8	—	—	—	—	18.9	—	18.5	40.8	50.0	27.8	5.1	7.3
1969	—	8.9	—	33.9	35.1	18.5	—	55.6	19.6	23.8	27.8	—	5.0	11.7
1970	—	—	—	—	56.6	38.5	—	19.2	18.9	80.0	23.8	—	4.9	10.9
1971	—	8.7	—	15.6	70.0	18.1	—	—	19.0	19.1	—	—	—	11.6
1972	—	—	—	14.7	—	—	38.5	—	18.9	19.2	—	—	—	4.4
1973	—	8.0	—	38.5	—	35.1	37.7	—	—	19.2	—	52.6	4.6	10.4
1974	—	7.9	18.7	12.0	32.3	35.1	—	19.2	37.7	19.6	41.7	—	13.8	12.0
1975	—	7.8	26.8	10.9	15.4	16.9	18.2	18.9	—	38.5	—	51.3	—	11.8
1976	—	15.6	49.9	10.6	14.5	50.0	35.1	19.2	37.5	38.0	58.7	23.7	—	19.5
1977	—	30.5	9.3	—	—	16.4	17.2	—	18.9	37.7	19.6	22.7	—	10.0
1978	—	7.6	9.1	10.5	23.5	—	69.0	54.5	56.6	18.5	—	—	—	13.1
1979	—	7..	—	21.1	22.0	29.9	17.2	71.4	37.7	—	40.0	—	—	13.0
1980	—	15.0	17.4	10.4	20.6	14.5	—	35.7	—	18.9	19.6	20.8	—	11.3
1981	—	7.7	19.0	—	—	14.0	16.5	—	37.9	18.8	19.2	—	—	7.3
1982	—	—	28.6	—	21.1	12.8	16.4	17.6	18.7	—	19.1	—	14.1	9.0
1983	—	17.1	45.5	20.8	10.6	11.8	—	17.9	18.5	—	18.9	—	6.8	12.9
1984	9.3	9.0	16.7	—	21.3	11.0	30.3	17.5	74.1	19.2	—	—	3.3	12.0
1985	—	—	8.1	9.7	21.3	—	—	—	—	18.9	—	—	—	3.9

Table A-8 Prince Edward Island: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1961	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1962	—	—	31.2	—	—	—	—	—	—	—	—	—	—	1.9
1963	—	—	—	—	—	—	—	—	41.7	—	—	—	—	1.9
1964	—	—	—	—	—	—	35.7	—	—	—	55.6	—	—	3.7
1965	—	19.2	—	—	—	—	—	—	—	—	—	—	—	1.9
1966	—	—	—	—	—	—	35.7	—	—	—	—	—	—	1.9
1967	—	—	—	—	—	—	37.0	37.0	37.0	—	—	—	44.4	9.3
1968	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1969	—	—	—	—	35.7	38.5	—	37.0	—	—	55.6	—	—	7.3
1970	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1971	—	—	—	—	35.6	—	—	—	—	—	—	—	—	1.8
1972	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1973	—	—	—	—	—	—	—	—	—	—	—	52.6	—	1.7
1974	—	—	18.9	—	—	—	—	—	37.0	—	—	—	—	3.4
1975	—	—	17.9	—	—	—	—	36.5	—	—	—	—	—	3.4
1976	—	15.6	—	—	—	—	—	—	—	—	76.6	—	—	5.1
1977	—	—	—	—	—	—	—	—	—	37.0	—	—	—	1.7
1978	—	15.4	18.5	—	—	—	—	—	37.0	35.7	—	—	—	6.6
1979	—	—	—	—	—	—	—	74.1	37.0	—	—	—	—	4.9
1980	—	—	—	—	—	—	—	—	—	—	—	41.7	—	1.6
1981	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1982	—	—	19.0	—	—	—	—	—	—	—	—	—	—	1.6
1983	—	—	18.2	20.4	—	23.8	—	35.7	—	—	—	—	—	6.4
1984	—	—	—	—	—	—	31.3	—	—	37.0	—	—	—	3.2
1985	—	—	—	19.2	20.8	—	—	—	—	—	—	—	—	3.1

Table A-9 Prince Edward Island: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	22.2	—	—	74.1	35.7	—	35.7	40.0	—	—	117.6	—	15.3
1961	—	—	—	—	—	35.7	69.0	34.5	—	—	—	111.1	29.4	13.1
1962	—	—	29.4	31.2	—	—	—	—	—	—	—	52.6	—	5.5
1963	—	—	29.4	32.2	—	34.5	—	—	74.1	—	—	—	—	9.1
1964	—	20.0	—	—	33.3	34.5	—	35.7	71.4	87.0	—	—	54.1	18.1
1965	—	—	—	—	—	—	—	35.7	—	41.7	52.6	—	54.1	9.0
1966	—	—	—	34.5	69.0	—	35.7	—	—	80.0	—	55.6	—	12.7
1967	—	—	—	—	—	74.1	—	37.0	74.1	—	—	—	—	9.1
1968	—	17.2	—	—	—	—	37.0	—	37.0	80.0	95.2	55.6	—	14.4
1969	—	17.5	—	66.7	34.5	—	—	74.1	38.5	45.4	—	—	—	16.1
1970	—	—	—	—	111.1	74.1	—	38.5	38.5	160.0	45.5	—	—	21.7
1971	—	17.1	—	30.4	103.3	35.0	—	—	38.5	37.7	—	—	108.1	21.3
1972	—	—	—	28.6	—	—	74.1	—	38.5	38.5	—	—	—	8.8
1973	—	15.9	—	75.0	—	69.0	71.4	—	—	38.5	—	52.6	25.6	19.1
1974	—	15.4	18.9	23.8	64.5	69.0	—	38.5	38.5	38.5	83.3	—	—	20.5
1975	—	15.4	35.7	21.7	31.3	33.3	34.5	—	—	80.0	—	100.0	25.6	20.2
1976	—	15.5	99.2	20.9	28.4	98.4	68.3	37.8	75.2	78.6	40.1	47.6	—	33.7
1977	—	59.7	18.5	—	—	31.3	34.5	—	38.5	38.5	40.0	45.5	—	18.2
1978	—	—	—	20.8	45.5	—	133.3	107.1	76.9	—	—	—	—	19.6
1979	—	14.7	—	41.7	43.5	58.8	33.3	69.0	38.5	—	83.3	—	—	21.0
1980	—	29.0	33.9	20.8	40.0	28.6	—	69.0	—	38.5	40.0	—	—	20.8
1981	—	15.1	38.7	—	—	27.2	32.7	—	74.8	38.6	40.7	—	—	14.8
1982	—	—	38.4	—	42.3	24.8	32.4	35.2	36.3	—	40.8	—	22.2	16.4
1983	—	33.9	72.7	20.8	21.3	—	—	—	35.7	—	40.0	—	44.4	19.5
1984	17.9	17.5	32.8	—	42.6	21.7	—	34.5	—	—	40.0	45.5	—	20.8
1985	—	—	15.9	—	21.3	—	—	—	—	38.5	—	—	—	4.7

Table A-10 Nova Scotia: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	11.2	4.0	6.8	9.1	13.3	13.5	12.5	21.0	18.5	17.1	14.3	12.2	8.0
1961	1.2	1.6	—	2.3	9.2	13.3	6.7	12.2	17.3	7.3	16.9	14.1	4.8	5.2
1962	1.2	4.5	7.8	9.1	11.7	13.5	13.5	12.0	11.2	—	12.7	4.7	4.7	6.0
1963	—	2.9	3.8	2.3	—	11.5	18.0	14.2	13.6	10.3	8.4	28.2	13.8	6.1
1964	—	—	1.9	4.6	7.3	7.1	11.4	11.8	10.6	23.2	12.5	4.7	11.3	5.3
1965	2.4	4.1	5.7	4.6	9.7	21.5	14.0	14.2	26.0	28.8	12.1	23.6	6.7	8.6
1966	3.7	5.4	11.4	23.2	12.1	16.8	14.1	2.4	17.8	24.8	31.4	4.6	—	9.1
1967	—	2.6	10.7	11.4	4.8	9.8	16.6	16.8	20.1	8.9	22.7	13.8	8.7	7.5
1968	—	1.3	10.0	2.2	4.8	12.2	24.0	9.6	12.5	25.9	7.2	13.6	6.4	6.9
1969	—	6.4	9.4	16.9	16.7	14.6	22.0	19.1	19.9	8.4	13.9	17.7	14.9	9.8
1970	1.2	10.2	17.5	8.5	5.0	20.5	20.1	4.9	10.1	19.3	20.9	18.1	14.7	9.5
1971	1.2	2.5	14.6	17.2	23.2	9.6	17.6	12.0	9.9	18.6	13.0	8.3	6.2	8.7
1972	2.3	8.6	18.3	14.5	15.9	24.1	22.7	17.1	27.3	15.8	22.0	8.1	4.1	11.7
1973	2.3	4.7	16.8	21.6	10.8	14.6	14.7	15.0	9.7	26.5	39.6	15.6	4.1	11.1
1974	—	5.9	22.8	14.2	24.8	21.5	12.3	10.1	26.7	13.2	14.7	11.4	4.0	10.7
1975	1.1	8.2	14.1	19.4	13.8	16.5	19.7	15.2	9.9	18.4	14.5	14.9	5.9	10.3
1976	1.2	9.2	18.6	13.1	20.5	11.4	24.3	12.7	14.8	10.3	11.2	7.0	11.5	10.4
1977	—	9.1	26.7	15.9	25.9	13.2	9.8	10.1	20.3	10.1	16.9	10.2	5.6	11.3
1978	1.2	5.7	23.7	23.2	17.9	12.7	14.6	17.4	17.7	22.5	19.5	16.4	11.0	12.5
1979	1.3	11.3	21.9	12.8	15.5	12.2	21.5	12.4	28.1	24.9	16.7	6.3	14.2	12.5
1980	—	8.0	16.8	16.7	11.9	13.6	14.2	19.9	12.8	20.2	16.4	24.7	10.4	11.4
1981	2.8	10.5	16.6	9.8	11.7	22.6	11.5	27.1	15.4	12.8	2.1	15.1	11.7	10.9
1982	2.8	10.9	15.1	23.5	13.3	14.0	6.7	27.1	15.2	18.2	7.9	15.0	14.6	12.2
1983	1.4	7.6	25.8	13.5	13.2	9.8	29.7	19.7	17.6	13.1	15.7	12.0	9.4	12.1
1984	—	9.2	12.9	13.2	8.7	14.0	10.2	12.0	22.6	20.9	10.4	12.0	10.6	9.9
1985	2.9	13.6	19.6	12.9	5.6	20.8	13.6	11.8	10.0	20.9	23.7	14.7	16.1	12.0

Table A-11 Nova Scotia: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	10.0	—	—	4.5	8.8	4.5	—	19.4	7.6	8.5	18.9	4.6	4.2
1961	—	—	—	—	4.6	13.2	—	5.0	—	—	8.5	—	—	1.6
1962	—	—	—	—	4.7	—	4.5	9.8	6.0	—	8.5	—	4.4	1.9
1963	—	3.0	—	4.7	—	9.1	4.5	4.8	—	—	—	18.3	—	2.2
1964	—	—	—	—	9.8	—	—	4.8	5.5	21.0	—	—	4.3	2.1
1965	2.5	2.8	3.8	—	—	9.5	4.6	—	5.3	—	8.1	27.5	—	2.9
1966	—	2.7	—	14.1	4.9	—	—	—	5.2	—	7.9	—	4.0	2.1
1967	—	—	—	4.6	—	—	9.4	—	5.1	6.2	15.3	—	—	1.8
1968	—	—	6.8	—	—	—	14.3	4.7	—	18.0	—	8.7	7.8	3.1
1969	—	—	—	8.6	4.8	—	—	14.2	—	—	—	17.1	3.8	2.3
1970	—	5.2	—	—	—	10.3	9.9	—	5.0	11.2	7.2	—	—	2.6
1971	—	—	3.0	7.8	—	—	10.0	—	4.9	—	—	—	3.7	1.8
1972	—	—	8.5	7.4	9.2	14.7	10.1	4.8	4.9	5.3	12.9	15.7	3.6	5.1
1973	—	—	5.7	3.4	—	4.9	5.0	9.8	—	15.6	18.5	7.7	7.1	4.0
1974	—	—	8.3	9.6	12.7	4.9	—	—	4.8	5.2	5.9	7.5	—	3.4
1975	—	2.4	—	9.1	—	—	9.9	10.0	—	5.1	—	7.4	6.8	2.9
1976	—	2.4	5.4	5.9	7.6	—	9.8	10.0	4.8	9.9	—	—	3.3	3.6
1977	—	—	10.4	2.9	10.5	4.5	9.9	5.0	14.8	4.9	10.9	—	3.2	4.5
1978	—	4.6	5.1	14.7	6.6	4.3	9.9	9.9	19.7	9.7	5.3	6.3	—	5.7
1979	—	4.6	5.0	2.9	6.3	4.1	4.9	—	24.8	9.5	—	—	3.1	4.0
1980	—	—	—	2.8	6.1	4.0	4.8	—	5.0	—	5.2	5.9	6.0	2.3
1981	—	9.6	—	—	—	7.6	—	14.9	10.0	14.8	5.1	—	2.9	3.7
1982	2.9	5.0	5.1	5.4	2.9	3.5	—	19.8	—	15.0	—	16.9	8.4	5.1
1983	—	2.6	10.0	2.7	2.9	3.3	8.5	9.9	—	—	—	5.6	2.7	3.2
1984	—	—	7.2	—	2.9	6.3	—	—	10.0	—	5.0	5.6	2.6	2.5
1985	—	2.8	4.7	5.2	5.6	6.0	3.9	9.5	5.0	—	—	5.6	5.0	3.6

Table A-12 Nova Scotia: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	12.5	7.8	13.3	11.7	18.0	22.4	24.0	22.3	29.0	25.6	9.6	25.4	11.6
1961	2.4	3.0	—	4.5	13.9	13.4	13.4	19.0	32.4	14.3	25.4	28.8	10.1	8.6
1962	2.4	8.7	15.2	17.8	18.7	27.4	22.6	14.2	15.8	—	16.9	9.6	9.9	10.0
1963	—	2.8	7.5	—	—	14.0	31.8	23.5	25.9	19.7	16.8	38.5	29.4	10.0
1964	—	—	3.6	8.9	4.8	14.4	23.1	18.9	15.4	25.2	25.0	9.7	24.4	8.4
1965	2.4	5.4	7.4	9.0	19.0	33.8	23.6	28.6	45.4	54.5	16.3	19.4	14.6	14.1
1966	7.2	8.0	22.7	32.2	19.0	34.0	28.7	4.8	30.0	47.0	54.7	9.5	9.6	16.0
1967	—	5.2	21.2	18.0	9.6	19.7	24.0	34.1	34.8	11.4	30.1	28.6	19.2	13.1
1968	—	2.6	13.2	4.3	9.5	24.5	34.0	14.6	25.0	33.3	14.3	18.9	9.5	10.6
1969	—	12.6	18.6	24.9	28.2	29.1	44.3	24.2	40.0	16.3	27.2	18.3	33.5	17.2
1970	2.3	14.9	34.5	16.9	10.0	30.6	30.6	10.1	15.3	27.2	33.8	37.7	33.2	16.4
1971	2.3	4.9	26.0	26.2	45.7	19.0	25.3	24.3	15.1	37.1	25.3	17.2	14.2	15.6
1972	4.5	16.7	27.8	21.4	22.4	33.2	35.5	29.5	50.5	26.5	30.7	—	9.4	18.3
1973	4.5	9.2	27.4	39.2	21.4	23.9	24.4	20.3	19.8	37.6	60.2	23.6	9.5	18.1
1974	—	11.4	36.7	18.8	36.6	37.7	24.4	20.4	49.5	21.6	23.7	15.4	9.4	17.9
1975	2.2	13.7	27.5	29.4	27.1	32.4	29.3	20.5	20.1	32.3	29.4	22.6	13.8	17.7
1976	2.3	15.7	31.4	20.0	33.0	22.6	38.5	15.4	25.4	10.6	23.1	14.3	27.3	17.1
1977	—	17.8	42.3	28.5	40.8	21.8	9.7	15.2	26.2	15.7	23.3	21.0	13.5	18.0
1978	2.4	6.7	41.5	31.5	28.8	20.9	19.2	25.0	15.7	36.5	34.7	27.2	26.2	19.3
1979	2.6	17.7	38.1	22.5	24.4	20.0	37.6	24.9	31.6	41.7	35.1	13.2	33.9	21.1
1980	—	15.6	32.9	30.4	17.5	22.8	23.3	40.0	21.1	42.1	28.7	45.8	24.7	20.5
1981	5.4	11.4	33.1	20.0	23.4	37.2	22.8	39.2	21.0	10.6	—	32.2	27.7	18.1
1982	2.7	16.5	25.1	42.0	23.6	24.3	13.2	34.2	30.9	21.7	16.7	12.8	34.9	19.5
1983	2.7	12.3	41.2	24.7	23.6	16.3	50.8	29.3	35.5	27.3	33.3	19.5	22.4	21.2
1984	—	17.9	18.3	26.5	14.5	21.7	20.3	23.8	35.4	43.7	16.5	19.5	25.5	17.4
1985	5.6	23.9	33.6	20.6	5.7	35.6	23.2	14.1	15.2	43.5	50.0	25.5	32.0	20.6

Table A-13 New Brunswick: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	2.7	14.8	17.5	5.6	6.0	10.0	19.9	—	5.6	6.3	3.3	4.6
1961	—	3.7	5.3	3.0	8.8	2.8	5.9	16.3	15.4	19.1	11.1	6.2	6.5	5.0
1962	—	3.6	12.8	14.8	11.9	11.2	2.9	9.6	14.9	4.6	16.5	12.3	6.4	6.0
1963	1.4	5.2	5.0	8.9	3.0	17.2	8.8	3.2	3.6	8.9	16.2	6.1	6.3	4.8
1964	—	5.0	10.0	12.0	—	11.8	11.7	12.7	14.3	26.1	21.4	6.1	—	6.4
1965	—	1.6	2.4	9.0	15.4	9.0	5.8	12.6	17.5	16.8	15.8	24.2	—	5.7
1966	—	—	4.7	3.0	—	9.1	11.8	22.1	3.5	—	15.4	12.0	—	4.0
1967	—	7.5	10.9	5.9	9.4	3.1	11.9	3.1	6.8	7.9	5.0	6.0	8.8	4.8
1968	—	3.0	6.0	2.8	3.1	6.3	6.0	12.4	16.9	11.6	4.8	6.0	8.6	4.6
1969	—	1.5	9.4	8.2	12.5	19.0	12.3	21.5	23.5	37.6	18.4	11.6	—	8.4
1970	—	—	3.4	2.7	20.0	10.0	9.6	21.7	13.5	7.5	22.9	17.8	2.8	5.9
1971	—	—	5.3	17.2	3.0	12.6	9.6	24.5	10.0	21.6	4.3	21.8	19.2	6.9
1972	1.4	7.0	13.4	6.9	8.8	22.0	12.9	12.3	16.5	14.2	16.9	5.3	—	7.6
1973	2.7	5.4	13.1	10.5	19.4	19.1	15.7	—	21.9	17.8	12.5	15.5	5.3	8.9
1974	1.3	9.4	18.6	9.9	21.1	6.2	6.3	12.7	9.5	24.8	12.0	15.1	5.2	8.9
1975	1.3	9.4	13.2	5.5	17.4	9.0	18.8	3.2	6.3	7.0	23.3	9.8	2.6	7.9
1976	2.7	5.4	14.1	15.8	20.9	17.4	25.0	16.1	9.3	17.1	30.2	9.2	10.2	10.9
1977	—	4.0	22.6	19.0	10.7	27.7	15.7	15.9	9.6	6.6	22.6	4.4	12.4	10.5
1978	1.5	16.0	17.5	10.2	17.9	29.1	25.0	25.1	22.2	9.7	22.3	4.3	14.3	13.0
1979	—	17.3	14.3	15.0	11.3	15.1	18.3	21.9	19.2	19.2	22.1	25.3	4.7	12.0
1980	—	5.4	18.4	16.1	12.5	16.8	17.9	18.9	19.3	22.3	14.5	16.5	13.5	11.4
1981	—	5.5	20.1	10.0	15.9	14.0	17.3	12.6	19.5	35.3	21.3	—	10.9	11.1
1982	—	12.8	27.9	13.2	17.7	8.7	13.9	12.8	19.2	29.4	3.5	24.1	16.9	12.9
1983	—	5.9	18.1	17.8	14.0	22.2	15.9	15.9	35.0	22.9	23.7	32.1	20.5	14.2
1984	1.6	12.4	23.3	16.1	13.9	7.6	15.3	15.4	22.5	19.8	26.8	12.0	15.7	12.6
1985	—	8.1	15.8	12.8	11.9	19.9	17.0	15.1	12.9	23.1	23.5	15.8	19.0	12.0

Table A-14 New Brunswick: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	5.9	—	—	6.0	—	25.0	—	—	—	—	1.7
1961	—	—	—	—	11.6	5.5	—	13.4	8.1	9.7	—	—	6.3	2.7
1962	—	—	—	5.9	5.9	5.6	—	6.5	7.8	—	10.9	—	—	2.0
1963	—	3.6	—	—	—	11.4	—	—	—	9.2	—	—	—	1.3
1964	—	3.4	5.1	—	—	—	5.8	6.4	7.4	17.8	—	—	5.9	2.6
1965	—	—	—	6.0	—	5.9	—	—	7.2	8.7	10.4	11.6	—	2.0
1966	—	—	4.8	—	—	6.0	11.7	6.3	—	—	—	—	5.6	2.0
1967	—	3.0	—	—	—	—	17.6	—	—	—	—	11.5	—	1.6
1968	—	—	—	5.7	—	6.2	—	—	20.4	—	9.6	—	5.3	2.2
1969	—	—	3.9	5.6	6.2	6.3	12.2	6.1	20.1	30.5	9.2	—	—	4.8
1970	—	—	—	—	13.2	6.5	6.3	—	20.0	7.6	9.3	22.7	—	3.5
1971	—	—	3.6	5.1	—	—	6.4	18.2	—	14.5	—	—	4.9	2.9
1972	—	2.8	—	9.5	—	6.3	—	12.2	6.5	7.1	16.9	—	—	3.1
1973	—	—	3.3	8.7	5.7	—	—	—	12.4	7.1	8.2	20.0	—	3.1
1974	—	—	3.1	4.0	—	—	—	—	—	14.1	—	9.8	—	1.5
1975	—	5.5	5.9	—	—	6.1	18.8	—	6.2	6.9	7.6	9.5	9.0	4.2
1976	2.8	2.8	3.1	—	9.6	11.7	12.5	—	—	13.3	—	9.0	—	3.6
1977	—	—	6.1	3.5	—	28.2	—	12.6	6.2	—	14.7	—	4.3	4.1
1978	—	5.5	—	6.8	8.2	10.8	12.6	6.3	12.3	—	7.2	—	—	4.0
1979	—	2.7	2.9	—	3.9	10.3	—	6.3	6.2	—	7.1	8.1	4.1	2.9
1980	—	—	2.9	—	7.3	5.0	—	6.3	6.3	6.1	14.0	—	3.9	2.8
1981	—	5.7	—	—	7.1	—	5.9	—	6.4	18.6	—	—	3.8	2.9
1982	—	2.9	3.1	—	3.5	—	—	12.7	18.8	6.3	—	7.7	7.3	3.4
1983	—	—	—	9.6	—	20.4	5.4	—	6.3	12.7	12.9	7.7	—	4.2
1984	—	6.3	3.0	3.2	6.9	3.9	5.2	—	—	6.4	12.7	—	—	3.1
1985	—	—	5.9	9.6	6.7	3.6	9.9	—	6.3	—	12.7	—	—	3.6

Table A-15 New Brunswick: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	5.4	23.8	35.5	11.4	5.9	19.4	14.3	—	11.2	12.5	6.9	7.4
1961	—	7.3	10.6	6.0	6.0	—	11.8	19.1	22.0	28.3	22.5	12.3	13.4	7.3
1962	—	7.0	25.6	23.7	18.1	17.0	5.8	12.6	21.4	9.1	22.2	25.0	13.3	9.8
1963	2.7	6.8	10.0	18.0	6.1	23.2	17.5	6.3	7.0	8.7	33.0	12.5	13.2	8.1
1964	—	6.5	14.7	24.1	—	23.8	17.6	18.9	20.8	33.9	43.5	12.6	—	10.1
1965	—	3.1	4.8	12.0	31.0	12.1	11.8	25.2	27.4	24.4	21.3	38.0	—	9.4
1966	—	—	4.6	0.0	—	12.3	11.9	38.0	6.8	—	30.9	25.3	6.4	6.1
1967	—	11.8	21.4	11.7	19.0	6.3	6.0	6.3	13.5	15.4	10.0	—	19.2	8.0
1968	—	5.8	11.8	—	6.3	6.3	12.2	25.0	13.4	22.7	—	12.5	19.0	7.0
1969	—	2.9	14.8	10.7	18.8	31.8	12.4	37.3	26.8	44.4	27.5	24.4	—	12.0
1970	—	—	6.7	5.4	27.0	13.7	13.1	44.3	6.8	7.5	36.4	12.3	6.3	8.3
1971	—	—	6.9	28.5	5.9	25.3	12.9	31.0	20.1	28.6	8.6	45.1	18.6	11.0
1972	2.6	11.0	26.3	4.4	17.2	37.7	25.8	12.4	26.7	21.3	16.8	11.0	—	12.1
1973	5.3	10.6	22.7	12.3	32.6	38.0	31.4	—	39.0	28.4	16.4	10.6	12.3	14.7
1974	2.6	18.3	33.8	15.4	41.0	12.4	12.6	25.6	19.4	35.7	24.2	20.6	12.1	16.3
1975	2.6	13.1	20.2	10.7	33.7	11.9	18.9	6.5	6.4	7.1	39.4	10.0	12.0	11.5
1976	2.7	7.9	25.0	31.0	31.7	22.8	37.5	32.5	19.1	21.0	61.5	9.5	23.8	18.3
1977	—	7.9	38.8	34.0	20.8	27.3	31.3	19.4	13.1	13.7	30.8	9.2	28.9	16.9
1978	2.8	26.0	34.6	13.5	27.1	46.6	37.3	44.3	32.7	20.1	38.2	9.1	33.9	21.9
1979	—	31.1	25.4	29.7	18.3	19.6	36.4	37.7	32.9	40.0	38.2	44.2	10.9	21.1
1980	—	10.4	33.1	32.1	17.4	27.9	35.3	31.6	32.9	40.0	15.2	34.8	31.7	20.1
1981	—	5.4	40.2	20.3	24.6	27.6	28.4	25.5	33.0	53.1	44.6	—	25.8	19.4
1982	—	22.2	52.6	26.9	31.8	17.1	27.4	12.8	19.6	54.1	7.3	42.2	40.4	22.5
1983	—	11.5	35.8	26.1	28.4	23.9	26.0	31.8	64.5	34.0	35.7	59.3	49.0	24.2
1984	3.2	18.1	42.7	29.2	21.0	11.3	25.1	30.9	45.5	34.2	42.6	25.6	37.9	22.3
1985	—	15.7	25.2	16.0	17.2	36.0	23.9	29.9	19.6	47.9	35.5	33.9	46.1	20.5

Table A-16 Quebec: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	0.2	1.3	6.3	10.2	7.3	6.9	7.3	11.2	9.6	10.4	12.4	7.1	9.0	5.0
1961	—	1.3	2.7	3.6	5.9	5.9	11.7	12.7	11.8	6.3	18.7	11.1	7.4	4.6
1962	0.2	2.8	4.9	6.3	6.2	9.1	8.9	7.8	14.9	13.8	12.9	10.0	4.6	5.0
1963	0.2	2.1	5.9	6.3	6.7	8.4	7.1	10.9	12.1	9.4	9.4	9.7	6.5	4.8
1964	0.5	1.5	5.8	8.0	8.6	10.8	12.8	8.7	14.5	14.9	14.0	7.9	7.8	5.8
1965	0.8	4.0	5.5	8.4	8.1	12.0	9.0	9.2	15.3	11.6	11.8	10.0	2.8	5.7
1966	—	2.3	9.5	10.8	6.2	10.1	10.7	10.7	15.3	21.8	8.6	12.7	6.9	6.3
1967	0.5	4.0	9.8	9.8	13.7	10.1	12.2	12.7	14.3	12.7	8.8	8.7	5.3	6.8
1968	—	3.6	8.5	9.1	11.0	12.3	12.3	13.6	18.9	14.4	14.4	15.4	6.5	7.3
1969	0.4	5.8	12.5	12.3	12.9	15.4	14.8	18.6	18.7	20.6	10.8	12.8	6.7	9.0
1970	0.7	5.4	12.4	13.4	12.3	16.8	12.5	19.0	14.2	18.5	13.7	13.9	6.9	9.0
1971	0.9	7.4	11.3	12.8	15.3	14.6	17.0	14.2	13.4	15.9	16.4	13.1	6.7	9.2
1972	0.6	8.7	17.4	16.8	15.1	13.4	13.2	13.7	17.9	12.9	15.5	12.7	6.9	9.9
1973	0.6	8.2	15.9	15.2	14.3	17.1	16.1	23.0	19.5	21.8	20.7	15.2	7.1	11.4
1974	0.3	9.9	15.2	17.1	10.6	15.5	16.2	16.8	17.6	10.9	14.7	19.4	8.3	10.5
1975	0.8	5.7	16.0	14.6	12.2	14.0	13.2	13.5	13.4	14.2	10.0	9.4	7.4	9.3
1976	0.3	8.4	15.7	17.6	18.1	14.1	13.0	15.5	16.2	12.3	12.0	11.3	7.8	10.5
1977	0.2	7.5	20.1	16.8	21.0	20.1	17.4	15.9	21.0	18.2	15.3	10.4	6.5	12.4
1978	0.9	9.8	25.7	23.1	21.8	18.7	18.6	15.7	17.6	19.4	19.4	14.3	7.9	14.2
1979	1.0	13.4	24.4	24.3	21.2	20.2	21.7	22.2	21.3	22.6	17.4	16.5	9.4	15.6
1980	0.8	11.6	21.3	21.5	19.0	21.3	16.9	24.6	20.6	19.8	19.6	19.5	14.0	15.0
1981	1.7	11.5	23.0	22.9	21.7	18.8	25.4	20.7	25.1	26.1	23.9	15.6	11.8	16.4
1982	0.6	13.5	23.7	24.9	21.9	22.7	28.9	21.3	26.3	21.4	15.3	13.1	8.9	16.5
1983	1.8	17.5	24.4	28.6	27.1	19.8	26.1	23.3	20.4	26.5	26.3	20.4	12.1	18.5
1984	1.6	14.6	20.6	21.8	21.0	19.9	22.9	21.2	23.3	23.2	19.3	15.3	9.5	15.7
1985	1.4	13.1	22.4	25.1	23.3	21.0	20.6	24.3	25.1	24.0	21.0	18.2	17.8	17.1

Table A-17 Quebec: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	0.4	0.9	2.2	3.3	3.2	2.3	5.9	6.0	7.0	3.2	4.1	—	3.1	2.2
1961	—	0.9	2.1	1.6	3.7	4.9	3.8	3.6	4.1	4.0	3.8	—	1.9	2.5
1962	—	2.0	2.0	1.6	3.7	4.9	3.8	3.6	4.1	4.0	3.8	—	1.9	2.0
1963	—	0.8	2.4	5.5	4.8	4.8	5.5	8.4	8.9	4.9	2.4	3.1	2.8	2.9
1964	—	0.4	4.6	3.8	3.8	6.9	5.3	4.1	5.5	4.8	4.7	3.0	1.8	2.6
1965	0.3	1.8	3.1	7.0	8.6	9.5	6.3	5.4	6.8	10.2	3.4	2.9	2.6	3.8
1966	—	0.7	3.8	6.2	3.8	6.9	1.7	6.6	9.6	11.7	5.5	4.2	0.8	3.1
1967	—	1.0	2.8	5.5	8.6	5.8	9.3	6.4	8.0	7.8	4.2	1.4	1.6	3.5
1968	—	0.3	4.6	4.8	5.4	5.9	7.6	5.0	12.9	9.2	6.2	7.8	3.8	3.8
1969	—	1.7	4.9	6.8	10.2	10.3	8.2	10.2	12.7	12.9	6.9	7.5	2.2	5.1
1970	—	2.7	7.9	8.2	7.5	7.6	7.5	8.8	5.6	11.0	3.9	8.6	0.7	4.6
1971	0.6	2.3	3.6	5.0	8.5	8.3	11.7	9.9	6.9	6.2	6.5	8.1	6.2	4.6
1972	0.3	3.9	4.9	11.3	6.2	9.5	7.8	8.6	7.4	5.3	9.0	8.9	2.7	5.0
1973	--	4.7	5.0	10.1	11.2	9.7	8.9	15.5	12.2	12.0	7.9	9.7	4.5	6.5
1974	—	2.5	3.4	8.3	6.5	9.0	9.5	8.6	10.6	6.0	9.4	9.4	3.7	4.9
1975	0.3	2.5	8.6	6.6	7.0	10.0	10.7	10.2	5.5	11.1	3.3	3.1	5.9	5.3
1976	—	1.5	5.7	8.3	13.1	8.0	9.0	10.1	10.7	6.4	5.6	6.9	1.1	5.4
1977	0.3	3.4	7.8	12.9	8.8	11.4	6.8	6.2	14.1	13.0	12.8	3.8	2.2	6.5
1978	0.4	3.1	5.2	12.2	8.7	10.9	11.0	7.9	11.8	15.2	11.9	6.5	6.3	6.8
1979	0.4	5.1	9.3	12.1	11.6	15.3	11.0	12.5	15.3	12.2	5.5	10.9	4.5	8.1
1980	—	3.2	7.0	10.5	9.1	8.7	7.4	17.4	14.7	11.3	7.8	8.0	4.9	6.9
1981	0.9	2.6	7.2	9.8	9.8	9.5	13.6	12.1	15.6	14.8	14.8	6.0	8.8	7.8
1982	—	2.8	6.6	10.9	10.1	16.5	16.8	11.7	16.0	14.1	7.8	4.2	4.0	7.9
1983	—	4.4	6.9	9.7	14.3	12.4	19.5	12.4	10.3	12.7	12.4	10.1	9.3	8.6
1984	0.5	2.3	4.4	6.4	9.2	7.0	13.9	13.4	12.1	12.7	8.7	8.3	2.9	6.3
1985	0.9	4.1	5.5	8.9	9.0	11.7	10.6	14.9	10.6	11.4	11.1	13.1	4.7	7.3

Table A-18 Quebec: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	1.8	10.6	17.1	11.4	11.6	8.7	16.3	12.2	17.6	21.1	14.5	18.7	7.7
1961	—	1.7	3.3	5.5	8.1	9.6	16.4	16.7	17.8	8.5	30.0	17.6	15.9	6.6
1962	0.3	3.6	7.9	11.1	8.6	13.3	14.1	12.1	25.6	23.7	22.6	20.7	10.0	8.0
1963	0.3	3.5	9.5	7.2	8.6	12.1	8.7	13.4	15.3	14.0	16.8	16.9	15.2	6.7
1964	1.0	2.6	7.1	12.2	13.5	14.7	20.5	13.3	23.6	25.2	23.9	13.3	16.9	9.0
1965	1.3	6.2	8.1	9.8	7.5	14.6	11.7	13.1	23.8	13.2	20.8	17.9	6.2	7.6
1966	—	3.9	15.4	15.4	8.6	13.4	19.9	14.9	21.1	32.0	11.8	22.3	13.2	9.5
1967	0.9	6.8	17.0	14.2	18.8	14.4	15.1	19.2	20.8	17.7	13.8	17.1	12.0	10.0
1968	—	6.7	12.4	13.5	16.7	18.7	17.1	22.4	25.1	19.8	23.4	24.2	14.7	10.8
1969	0.9	9.8	20.2	17.8	15.5	20.4	21.6	27.3	24.9	28.5	15.1	19.1	15.4	13.0
1970	1.5	8.0	17.0	18.8	17.2	26.1	17.6	29.6	23.3	26.4	24.1	20.1	16.1	13.3
1971	1.2	12.4	19.1	20.4	22.1	21.0	22.5	18.6	20.3	26.2	27.2	19.0	15.9	13.8
1972	0.9	13.4	30.1	22.3	23.9	17.2	18.6	19.0	29.1	21.0	22.6	17.1	16.5	15.0
1973	1.2	11.5	27.0	20.4	17.3	24.5	23.4	30.8	27.2	32.2	34.6	21.7	17.1	16.4
1974	0.6	17.0	27.0	26.1	14.6	21.9	22.9	25.3	24.9	16.2	20.6	31.2	20.2	16.1
1975	1.2	8.9	23.3	22.6	17.4	18.1	15.8	16.9	21.8	17.6	17.4	16.9	17.9	13.4
1976	0.6	15.1	25.7	27.0	23.1	20.2	17.0	20.9	22.1	18.7	19.1	16.6	19.1	15.8
1977	1.3	11.5	32.3	20.8	33.2	28.7	28.3	25.9	28.3	24.0	18.1	18.4	16.2	18.3
1978	1.4	16.2	45.9	34.1	34.9	26.5	26.3	23.7	23.8	24.1	28.1	23.7	19.6	21.8
1979	1.5	21.3	39.2	36.4	30.9	25.1	32.6	32.1	27.6	34.1	31.0	23.2	23.6	23.3
1980	1.6	19.6	35.3	32.6	28.8	33.8	26.4	32.1	26.8	29.2	33.2	33.5	35.4	23.3
1981	2.4	19.9	38.8	36.1	33.6	28.1	37.3	29.4	35.0	38.4	34.4	27.4	29.9	25.2
1982	1.3	23.7	40.7	38.9	33.7	28.9	41.1	31.2	37.0	29.5	23.9	23.9	22.6	25.4
1983	3.4	30.0	41.7	47.6	39.9	27.2	32.7	34.4	31.0	41.6	42.4	33.1	31.0	28.7
1984	2.6	26.4	36.4	37.3	33.0	33.0	32.0	29.1	34.8	34.7	31.6	23.9	25.0	25.4
1985	1.8	21.7	38.9	41.3	37.8	30.4	30.6	33.9	40.2	37.6	32.4	24.6	38.7	27.2

Table A-19 Ontario: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	0.7	3.6	7.2	9.8	10.4	10.3	10.7	16.1	19.2	24.0	18.8	19.2	14.0	9.8
1961	0.7	2.5	7.8	9.5	8.9	11.7	13.8	13.3	19.7	25.2	21.0	22.8	13.7	10.0
1962	0.6	3.2	7.4	8.7	10.1	11.2	12.0	16.9	22.4	21.9	17.5	13.1	8.7	9.3
1963	0.9	4.0	9.3	8.3	10.1	12.5	15.6	15.4	21.2	20.7	21.2	10.6	12.8	10.0
1964	1.2	3.9	7.9	6.3	14.0	13.4	11.4	17.7	17.3	17.6	25.4	17.2	9.1	9.7
1965	0.9	3.2	9.9	9.3	10.8	10.2	16.4	15.0	23.5	23.1	29.0	15.9	11.1	10.5
1966	1.3	4.0	6.4	9.9	12.1	14.6	13.4	18.7	22.1	23.5	22.9	13.6	14.1	10.6
1967	0.6	5.1	9.9	12.1	12.0	14.2	18.6	20.0	23.3	27.4	21.9	24.6	8.7	11.8
1968	1.1	3.5	9.8	13.9	13.7	14.5	21.4	22.6	26.1	27.0	23.6	20.6	11.1	12.5
1969	0.3	5.7	12.3	11.8	12.7	15.4	19.2	23.7	21.8	28.3	26.1	17.7	17.2	12.8
1970	0.6	6.6	13.0	13.2	14.3	17.5	22.7	19.9	25.1	24.4	23.2	27.1	10.1	12.1
1971	0.4	8.8	15.4	14.5	15.9	17.9	25.9	26.8	32.0	29.7	30.4	18.0	9.8	13.9
1972	1.3	9.5	13.6	18.5	14.8	17.7	26.2	24.1	24.3	22.9	21.1	18.5	13.1	13.4
1973	0.6	6.6	13.7	14.8	12.3	20.3	18.7	23.5	20.5	24.3	25.5	24.3	11.6	12.4
1974	0.7	9.8	17.9	16.1	15.0	22.2	25.1	23.7	26.1	23.4	21.1	20.8	12.2	14.0
1975	0.9	10.7	17.7	17.8	11.5	19.2	21.7	21.1	25.3	23.2	21.6	24.5	12.1	13.4
1976	0.9	8.9	15.7	17.9	14.7	19.2	21.3	22.7	23.2	21.9	18.4	15.7	9.8	13.0
1977	1.2	10.8	20.9	19.1	14.6	18.8	19.2	26.7	23.9	21.5	20.1	25.1	12.2	14.5
1978	0.7	9.6	18.2	21.2	17.9	15.3	22.7	24.7	23.7	22.5	18.0	17.5	14.0	14.3
1979	0.8	9.2	18.7	15.0	16.0	17.0	18.2	19.9	19.1	19.8	23.2	19.4	10.7	13.0
1980	0.9	9.9	14.7	18.6	13.3	14.6	18.6	21.9	22.1	20.3	19.0	18.1	13.5	13.1
1981	1.0	9.6	14.8	12.4	14.1	12.4	17.9	20.3	21.1	20.5	16.8	20.3	14.8	12.5
1982	1.8	9.3	14.8	16.3	13.7	15.8	16.0	19.5	20.4	21.7	21.0	19.7	11.2	12.7
1983	0.9	9.4	16.3	15.1	13.4	14.9	17.1	21.2	17.4	22.4	17.8	20.7	14.0	12.9
1984	0.9	9.0	16.0	15.8	13.6	13.4	15.9	15.3	19.0	20.0	17.0	18.1	12.9	12.3
1985	0.3	8.5	15.1	13.9	16.2	13.5	14.8	16.3	15.4	15.3	13.1	18.2	15.5	11.4

Table A-20 Ontario: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	0.5	3.1	3.8	5.7	4.3	3.1	6.9	8.8	15.1	10.2	8.7	4.0	4.3
1961	—	0.9	4.1	4.3	5.8	3.8	4.6	4.5	7.9	8.6	3.6	11.7	3.8	3.8
1962	—	1.7	4.0	5.8	8.1	5.9	6.9	10.0	9.0	9.2	7.1	7.3	3.7	4.9
1963	—	2.0	4.9	5.4	5.0	6.8	6.6	9.9	13.8	8.9	6.1	5.0	6.2	5.0
1964	0.3	2.6	4.2	4.3	10.5	9.4	7.7	9.7	10.3	13.0	7.6	11.8	5.5	5.9
1965	—	2.1	3.5	3.3	7.3	6.4	9.6	12.2	15.9	9.8	14.0	4.8	5.9	5.7
1966	0.3	1.7	2.4	6.9	7.2	11.2	8.0	11.8	13.2	15.7	10.4	4.7	5.2	6.0
1967	0.3	1.6	5.7	6.6	9.9	7.8	12.5	12.8	12.9	12.5	10.1	12.9	7.3	6.8
1968	0.6	1.2	5.4	6.3	8.1	12.2	15.4	13.7	19.3	8.9	9.8	11.7	6.2	7.2
1969	—	3.0	6.0	8.0	7.1	8.8	13.1	20.3	12.0	16.6	19.2	11.3	5.2	7.7
1970	0.3	3.8	4.1	8.4	12.2	10.6	16.5	16.7	20.5	20.2	13.6	14.6	8.3	8.2
1971	0.5	2.8	6.8	6.1	12.7	10.5	13.8	18.5	22.4	17.9	17.4	12.3	6.1	8.1
1972	0.3	4.2	6.0	14.1	11.1	13.5	20.8	16.3	19.5	17.0	10.8	11.3	10.6	8.9
1973	0.3	2.4	5.0	11.4	9.3	13.1	11.2	17.3	12.1	16.0	17.7	13.3	8.4	7.7
1974	0.5	2.9	6.5	9.6	10.7	15.8	15.5	18.3	20.4	15.9	15.8	15.2	5.9	8.6
1975	—	4.4	6.8	11.2	7.0	12.6	14.2	15.4	18.5	12.7	13.4	19.5	3.6	7.9
1976	0.8	3.5	8.0	8.3	8.6	14.0	14.5	10.7	12.6	17.3	15.4	10.7	9.0	8.1
1977	1.1	5.7	5.4	8.6	7.0	10.0	12.4	20.2	16.5	15.3	15.8	17.9	8.7	8.3
1978	0.6	3.4	7.6	9.4	9.2	7.3	13.7	14.6	13.6	13.0	12.3	15.3	7.8	7.6
1979	0.6	4.6	8.3	9.3	5.9	10.4	9.8	9.4	14.2	13.7	11.6	10.4	7.2	7.1
1980	0.9	4.4	7.0	6.7	6.3	11.1	13.1	12.5	14.2	13.0	15.8	10.6	7.9	7.4
1981	0.6	2.5	4.5	5.9	6.0	7.6	13.5	13.4	13.7	15.4	8.5	14.0	7.9	6.7
1982	0.3	2.6	6.0	6.8	7.2	9.3	10.7	10.4	9.4	12.0	11.1	13.8	4.8	6.3
1983	0.6	2.7	4.2	6.4	5.2	10.0	7.6	15.1	10.3	12.8	12.4	13.8	7.1	6.5
1984	0.6	2.6	6.0	6.8	5.7	8.1	10.6	7.2	13.7	12.4	12.2	13.8	8.9	6.7
1985	0.3	2.0	5.3	5.2	7.1	5.3	7.1	10.4	7.7	11.1	7.5	8.1	7.8	5.4

Table A-21 Ontario: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	1.4	6.5	11.5	15.6	14.9	16.5	18.2	24.9	29.2	32.6	27.6	30.7	30.7	15.3
1961	1.3	4.0	11.6	14.5	12.0	19.8	23.0	21.8	31.0	41.2	38.9	35.0	30.8	16.2
1962	1.3	4.6	10.8	11.5	12.1	16.6	17.1	23.6	35.3	34.3	28.3	19.5	19.5	13.8
1963	1.8	5.9	13.9	11.3	15.0	18.3	24.7	20.8	28.4	32.2	36.8	16.9	29.3	15.1
1964	2.1	5.1	11.8	8.3	17.3	17.4	15.1	25.4	24.1	22.2	43.9	23.3	21.0	13.6
1965	1.8	4.1	16.5	15.4	14.2	13.9	23.5	17.8	30.9	36.3	44.6	28.4	25.8	15.4
1966	2.3	6.2	10.4	13.0	16.8	17.9	18.9	25.6	30.7	31.3	36.0	23.6	33.2	15.3
1967	0.8	8.5	14.2	17.7	14.0	20.4	24.7	27.3	33.5	42.1	34.2	37.9	20.7	16.9
1968	1.6	5.8	14.3	21.4	19.2	16.7	27.4	31.6	32.8	45.2	38.1	30.9	26.8	17.9
1969	0.5	8.2	18.5	15.5	18.2	21.8	25.3	27.1	31.7	40.0	33.4	25.0	41.8	17.9
1970	1.0	9.3	21.8	18.1	16.5	21.2	28.7	23.2	29.8	28.7	33.4	41.3	24.8	16.0
1971	0.2	14.6	24.2	22.7	19.0	25.1	37.6	35.3	41.8	41.7	44.1	24.5	24.3	19.7
1972	2.2	14.5	21.4	22.8	18.4	21.7	31.4	32.1	29.2	29.0	32.0	26.6	32.4	17.8
1973	1.0	10.7	22.5	18.2	15.1	27.3	25.8	29.7	29.2	32.9	33.7	37.1	28.9	17.2
1974	1.0	16.4	29.3	22.5	19.1	28.4	34.3	29.1	32.0	31.3	26.6	27.4	36.0	19.5
1975	1.7	16.8	28.5	24.4	15.9	28.7	28.7	26.8	32.3	34.2	30.3	30.2	30.3	19.0
1976	1.0	14.1	23.6	27.5	20.6	24.3	27.8	28.5	34.3	26.8	21.6	21.6	24.0	18.0
1977	1.3	15.7	36.5	29.7	22.0	27.5	25.9	32.9	31.6	28.1	24.8	33.4	30.8	20.8
1978	0.8	15.5	28.9	33.3	26.5	23.1	31.6	34.5	34.2	32.7	24.3	20.0	35.5	21.2
1979	1.1	13.5	29.0	20.9	26.2	23.5	26.4	30.0	24.1	26.4	36.1	29.9	27.1	19.1
1980	0.9	15.2	22.2	30.9	20.4	18.1	24.1	31.2	30.0	28.3	22.6	26.7	34.3	18.9
1981	1.4	16.5	25.2	19.2	22.4	17.2	22.2	27.1	28.4	26.0	26.1	27.6	37.9	18.4
1982	3.2	15.7	23.8	26.3	20.4	22.4	21.3	28.5	31.3	32.1	32.0	26.6	28.4	19.4
1983	1.2	15.8	28.5	24.1	21.9	19.8	26.5	27.2	24.5	32.6	24.0	28.8	35.8	19.6
1984	1.2	15.1	25.7	25.0	21.8	18.8	21.2	23.4	24.1	27.9	22.3	23.3	32.8	18.2
1985	0.3	14.7	24.7	22.8	25.7	21.7	22.6	22.2	23.0	19.5	19.4	30.2	27.3	17.7

Table A-22 Manitoba: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	1.1	7.3	13.6	6.9	10.0	8.1	13.9	22.6	26.9	26.7	34.9	21.3	17.0	11.1
1961	—	—	3.4	15.6	10.0	15.9	13.8	18.4	10.8	13.2	3.1	21.3	12.7	7.6
1962	1.1	1.3	5.0	8.8	3.4	16.0	11.9	25.4	14.7	23.0	12.3	28.4	12.4	8.4
1963	—	8.9	14.5	17.6	17.2	9.7	8.4	14.4	16.3	9.9	15.2	14.2	6.9	8.5
1964	—	6.1	9.4	5.3	14.0	16.5	13.3	19.9	37.9	26.6	14.8	10.6	6.8	9.8
1965	—	4.7	7.6	7.2	16.1	13.5	26.4	12.6	23.5	18.8	31.8	28.1	15.2	10.5
1966	—	9.1	12.0	12.7	9.2	22.6	15.1	21.8	23.2	18.4	16.8	28.0	6.6	10.6
1967	—	6.6	11.4	16.1	22.6	9.0	15.3	10.9	15.4	22.5	24.7	24.1	19.8	10.5
1968	1.0	6.5	18.7	12.0	22.7	23.8	13.8	9.0	15.4	17.4	24.1	26.9	14.7	11.2
1969	2.0	6.4	25.2	4.9	13.2	18.6	21.1	19.5	17.3	21.2	23.4	13.1	9.7	11.2
1970	1.0	13.6	16.7	17.5	13.4	21.3	21.7	19.4	15.4	25.0	27.9	9.7	16.0	12.8
1971	3.0	9.3	24.6	13.4	10.9	30.4	24.3	19.5	23.5	20.5	25.1	27.8	12.6	14.0
1972	—	7.2	12.5	11.4	28.8	19.3	15.3	19.7	25.2	26.5	17.0	30.1	9.3	12.1
1973	2.0	14.2	18.3	21.3	18.9	13.8	7.6	24.0	33.6	14.5	33.2	20.5	4.6	13.5
1974	1.0	16.2	21.8	20.1	14.7	13.5	19.3	33.9	23.9	24.9	13.7	14.4	10.5	14.1
1975	1.0	15.1	23.4	19.1	12.5	21.0	23.5	19.2	20.2	16.8	11.1	16.9	8.8	13.1
1976	3.1	10.0	24.5	21.3	15.3	13.1	25.3	21.2	18.3	26.7	19.7	16.3	11.5	14.1
1977	2.1	29.6	24.9	21.0	15.5	23.6	19.7	25.2	37.4	22.0	19.7	21.0	9.8	17.5
1978	—	10.8	21.7	23.4	10.9	21.1	17.9	23.4	36.3	15.5	37.5	33.2	6.8	15.4
1979	5.8	17.8	17.6	22.0	18.5	20.4	13.9	33.7	15.6	24.8	11.1	15.0	6.6	14.6
1980	—	12.1	19.8	21.9	12.9	11.6	8.0	20.1	11.9	17.1	20.0	14.6	9.0	11.8
1981	3.6	20.8	27.7	16.2	15.2	13.0	9.8	20.3	27.9	13.4	15.2	14.3	12.5	14.0
1982	1.2	10.7	21.0	22.7	11.3	22.7	5.7	26.7	12.0	17.5	14.8	26.0	14.6	13.4
1983	2.4	14.4	17.5	23.3	24.7	20.1	14.6	30.9	22.1	19.7	26.6	14.3	15.3	15.8
1984	2.5	9.2	29.1	17.5	20.5	12.4	19.4	10.2	14.2	18.1	8.0	9.6	13.6	12.7
1985	1.2	15.4	19.0	17.0	16.4	11.8	11.9	6.0	16.5	22.3	20.0	19.2	8.7	11.9

Table A-23 Manitoba: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	6.8	—	3.3	—	—	3.8	13.8	—	26.0	—	15.4	3.4
1961	—	—	—	7.2	3.4	12.5	10.4	3.7	4.4	10.9	—	7.1	3.7	3.5
1962	—	2.8	—	10.9	3.4	9.4	3.4	11.0	4.3	5.3	—	21.3	3.6	3.9
1963	—	10.4	—	10.9	3.5	9.6	—	3.6	8.3	—	6.2	7.1	—	3.4
1964	—	5.0	3.2	3.6	3.6	19.6	3.2	7.2	20.2	9.8	12.0	7.0	—	5.1
1965	—	4.7	—	3.6	18.3	3.4	9.7	—	11.8	14.4	11.7	20.8	—	4.8
1966	—	—	—	14.5	—	17.3	3.3	7.2	3.9	18.6	11.3	13.7	6.4	4.8
1967	—	4.5	2.9	3.6	11.5	7.2	6.7	3.6	11.5	9.0	16.6	6.8	—	4.4
1968	—	6.6	10.8	3.5	3.8	22.1	6.8	3.5	7.6	8.7	5.3	6.6	3.1	5.2
1969	—	2.2	10.2	—	3.8	18.9	13.9	10.4	15.2	16.9	15.6	—	3.0	6.1
1970	2.0	10.7	9.6	—	3.9	3.9	7.1	24.1	11.3	—	10.1	6.3	5.9	5.9
1971	—	4.2	14.1	6.1	7.4	15.5	18.7	10.3	19.3	20.2	5.0	24.1	—	7.9
1972	—	2.1	2.3	14.6	11.0	7.9	15.4	7.0	—	12.0	4.8	11.8	—	4.8
1973	2.0	12.4	2.3	8.1	10.5	8.0	7.7	14.5	28.9	8.2	23.3	5.6	8.3	8.2
1974	2.0	2.1	4.4	12.6	13.4	11.9	11.8	14.9	17.7	16.3	4.5	11.0	8.1	7.5
1975	2.0	8.2	17.1	7.2	6.4	7.8	12.0	7.6	7.0	4.1	12.9	5.4	5.2	6.7
1976	—	4.1	4.3	14.4	18.6	18.9	19.7	19.2	3.5	15.9	17.0	15.5	[illegible]	8.8
1977	2.1	4.0	4.2	4.7	14.3	7.4	12.0	23.2	10.8	7.7	12.8	5.0	9.9	6.9
1978	—	2.0	4.2	11.7	—	7.1	8.0	3.9	29.7	3.7	21.4	24.2	9.5	6.9
1979	2.4	—	6.3	4.6	10.7	10.3	16.0	7.9	3.8	14.4	—	9.5	11.5	6.0
1980	—	4.1	8.4	13.8	5.2	10.0	4.0	16.1	15.6	14.3	21.2	9.2	6.7	7.7
1981	2.5	2.1	10.7	4.6	7.6	—	3.9	4.1	15.7	3.7	—	4.5	4.3	4.2
1982	2.5	2.2	4.2	13.5	5.0	6.1	3.8	8.3	3.9	11.2	8.0	17.7	6.3	5.7
1983	—	2.3	—	6.6	12.3	5.8	7.3	20.6	19.8	7.6	3.8	8.9	4.0	5.6
1984	—	—	6.1	6.6	7.2	8.3	17.7	12.3	8.1	7.8	7.5	9.0	0	5.2
1985	—	2.4	2.0	4.3	11.6	5.2	3.4	4.0	8.2	7.9	11.2	8.9	5.6	4.6

Table A-24 Manitoba: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	2.2	14.3	20.2	13.5	16.6	16.4	27.9	40.9	39.3	51.8	43.5	41.7	32.6	18.7
1961	—	—	6.7	23.55	16.6	19.5	17.3	32.7	16.9	15.3	6.1	35.2	24.8	11.5
1962	2.1	—	9.9	6.8	3.3	22.8	20.6	39.7	24.8	39.6	24.2	35.5	24.6	12.8
1963	—	7.5	28.8	24.0	30.2	9.8	17.0	25.2	24.1	19.3	23.8	21.4	13.9	13.5
1964	—	7.2	15.5	7.0	23.9	13.3	23.6	32.5	55.3	42.6	17.5	14.3	13.8	14.4
1965	—	4.6	15.1	10.6	13.9	23.8	43.9	25.4	35.0	23.1	51.4	35.5	31.0	16.0
1966	—	18.0	23.7	10.8	18.2	28.0	27.4	36.6	42.5	18.2	22.3	42.8	13.8	16.3
1967	—	8.8	19.7	28.5	33.4	10.8	24.3	18.4	19.3	35.7	32.8	42.2	41.5	16.5
1968	1.9	6.4	26.3	20.3	41.0	25.5	21.0	14.6	23.2	26.1	42.8	48.3	31.3	17.2
1969	3.9	10.5	39.9	9.7	22.3	18.4	28.6	29.1	19.4	25.5	31.2	26.8	20.8	16.3
1970	—	16.5	23.8	34.5	22.9	38.3	36.6	14.5	19.5	50.4	45.9	13.2	34.8	19.8
1971	5.8	14.3	34.9	20.5	14.3	44.7	29.9	29.2	27.9	20.8	45.4	31.6	27.9	20.0
1972	—	12.2	22.6	8.4	46.1	30.3	15.2	33.1	51.6	41.5	29.4	49.4	42.8	19.4
1973	1.9	16.0	34.2	34.1	27.1	19.2	7.6	33.7	38.8	21.1	43.5	36.6	10.3	18.9
1974	—	29.8	39.1	27.6	16.0	15.1	26.6	53.4	30.7	34.0	23.3	18.1	23.5	20.8
1975	—	21.7	29.7	30.9	18.3	33.7	34.6	30.9	34.5	30 0	9.1	29.4	20.0	19.5
1976	6.0	15.7	44.7	28.2	12.1	7.4	30.8	23.3	34.3	38.1	22.5	2.6	29.6	19.5
1977	2.1	54.2	45.7	37.0	16.7	39.4	27.2	27.3	65.9	37.5	27.3	38.9	22.5	28.1
1978	—	19.3	39.2	34.9	21.6	34.8	27.7	43.1	43.1	28.6	54.8	43.5	15.8	24.0
1979	9.1	34.9	28.8	39.4	26.3	30.3	11.9	59.3	28.0	36.4	23.1	21.2	15.5	23.5
1980	—	19.8	30.7	30.1	20.6	13.1	11.9	24.1	8.1	20.3	18.7	20.6	21.3	15.9
1981	4.8	39.0	44.5	27.9	22.9	25.9	15.5	36.4	40.4	24.3	31.8	25.4	29.8	24.1
1982	—	19.0	37.7	31.9	17.7	39.2	7.6	45.0	20.2	24.5	22.5	35.5	34.8	21.4
1983	4.8	26.1	34.8	40.0	37.3	34.4	21.9	41.2	24.4	32.8	52.6	20.4	36.6	26.2
1984	4.8	18.1	51.7	28.3	33.9	16.4	21.1	8.2	20.4	29.2	8.7	10.3	32.8	20.3
1985	2.4	27.9	35.4	29.6	21.2	18.3	20.2	8.1	24.8	37.5	30.2	31.1	13.2	19.3

Table A-25 Saskatchewan: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	4.2	5.2	10.8	13.7	8.5	10.6	19.3	20.6	21.8	22.7	14.1	10.9	8.2
1961	—	5.5	7.0	7.2	8.6	5.1	14.0	38.0	20.0	21.8	22.7	14.1	10.9	10.2
1962	1.0	6.6	12.2	9.4	14.1	6.9	12.4	15.1	21.9	10.5	19.3	7.2	8.5	7.8
1963	2.0	6.4	12.1	11.6	11.0	21.0	5.3	5.6	19.3	25.8	9.5	40.0	20.2	9.8
1964	—	4.9	3.4	17.5	24.3	5.3	10.7	30.0	25.2	20.1	9.2	3.7	13.3	9.0
1965	1.0	3.5	18.1	11.6	5.7	14.3	25.1	22.4	18.4	31.7	21.0	18.4	3.3	10.2
1966	1.9	5.6	9.7	15.3	9.6	10.9	3.6	18.6	18.1	16.5	14.6	25.6	8.1	8.0
1967	2.9	5.5	4.6	1.9	5.9	13.0	12.8	33.6	12.0	23.0	14.1	18.1	14.4	8.6
1968	1.9	9.6	14.4	18.9	12.0	19.1	9.2	13.1	15.8	15.7	16.5	28.2	8.0	9.7
1969	1.0	8.5	8.3	5.6	14.2	23.5	15.9	18.8	19.7	33.0	16.0	13.6	6.3	9.8
1970	1.9	6.2	12.9	15.3	15.2	19.1	31.4	19.3	17.9	21.8	15.7	20.1	15.8	11.6
1971	1.0	9.4	5.8	7.5	8.5	12.4	5.9	24.9	16.1	27.8	15.6	3.2	9.4	8.4
1972	3.0	9.2	32.1	17.0	17.5	30.3	24.5	27.3	30.3	19.2	20.3	31.3	14.0	15.7
1973	2.0	14.2	17.8	11.0	24.1	20.3	23.2	14.0	20.0	21.4	22.4	15.3	12.3	13.0
1974	1.0	11.2	16.5	17.9	21.8	25.6	26.0	8.2	18.0	15.0	31.4	12.0	12.2	12.6
1975	2.0	18.1	21.7	18.3	25.3	16.4	15.5	24.9	14.1	21.4	35.0	6.0	16.5	14.7
1976	—	20.6	22.1	26.1	19.6	17.7	17.5	10.5	24.4	19.5	11.7	11.5	13.4	14.0
1977	4.3	27.2	28.5	19.2	20.1	17.4	15.5	6.3	22.8	21.2	13.9	22.3	13.0	15.6
1978	5.6	26.4	35.3	14.0	16.9	22.9	17.7	19.1	20.7	18.9	30.1	21.8	16.9	17.3
1979	1.2	19.4	29.0	19.9	9.5	22.0	20.0	10.7	12.5	24.9	25.4	31.8	12.3	14.8
1980	2.4	19.7	22.0	25.3	14.9	21.2	11.0	19.5	37.7	14.6	27.5	17.9	16.1	15.8
1981	5.0	29.5	29.2	19.7	23.8	23.3	24.2	17.7	14.8	25.4	9.1	15.2	20.7	17.7
1982	1.3	34.8	33.4	25.0	28.9	16.3	8.6	17.9	12.8	19.2	176.9	22.4	17.7	17.5
1983	1.3	14.7	21.7	24.2	13.9	22.3	18.9	22.4	15.1	14.9	15.6	17.2	26.9	14.9
1984	1.3	21.3	18.8	14.6	14.5	24.3	16.4	15.7	28.3	13.0	22.1	10.0	9.5	13.5
1985	1.3	13.5	24.8	17.7	8.8	16.8	27.6	20.1	19.8	19.5	6.7	4.9	19.7	13.0

Table A-26 Saskatchewan: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	2.8	—	3.7	7.0	—	—	—	4.9	—	6.9	7.8	—	1.6
1961	—	2.8	—	3.7	—	6.9	—	27.3	4.7	—	—	7.7	4.0	3.1
1962	—	—	3.5	3.9	7.3	7.0	—	3.9	13.8	—	6.8	7.7	3.8	2.9
1963	—	5.2	3.5	8.0	7.6	10.8	3.6	—	9.0	5.6	—	7.7	3.5	3.8
1964	—	2.5	—	4.0	7.8	3.6	3.6	15.2	13.0	21.4	—	—	—	3.7
1965	—	—	3.3	—	—	11.0	14.4	7.5	8.4	15.5	25.6	7.6	10.6	5.0
1966	—	4.6	3.3	—	—	—	—	3.7	8.2	10.0	12.4	—	—	2.1
1967	2.0	—	—	3.8	4.0	11.4	14.7	18.7	4.0	14.4	6.0	—	—	4.3
1968	1.9	2.2	2.9	7.6	4.0	7.8	11.2	11.2	8.0	9.3	11.6	14.5	—	4.7
1969	—	2.2	8.5	—	—	—	11.4	7.5	15.8	22.5	11.2	—	—	4.3
1970	—	4.2	5.2	3.9	8.7	12.9	12.0	7.7	7.9	8.8	10.9	6.9	—	4.8
1971	—	2.1	—	—	4.3	8.5	—	15.4	—	8.7	10.7	—	—	2.6
1972	6.1	2.1	2.9	7.6	13.2	13.2	8.4	7.9	16.2	21.5	5.2	19.6	3.1	6.9
1973	2.0	6.2	16.9	—	8.8	4.6	—	4.0	8.0	4.3	15.3	18.9	9.0	5.8
1974	2.1	2.1	5.2	10.9	8.7	18.9	4.4	4.1	8.0	8.6	34.1	6.1	3.0	6.3
1975	2.1	10.2	11.7	3.4	16.9	14.2	18.0	16.8	8.0	12.8	4.7	6.0	5.8	7.9
1976	—	18.9	10.1	9.5	12.0	8.9	4.4	4.2	16.3	12.8	4.6	17.3	11.2	8.3
1977	—	8.2	7.0	3.0	18.7	8.7	4.5	4.3	16.5	12.5	4.6	5.5	8.2	6.2
1978	—	8.3	18.6	2.9	7.0	25.3	17.9	4.3	8.2	8.3	9.0	10.7	5.3	7.7
1979	—	2.1	13.6	11.0	3.3	8.1	—	4.3	4.1	12.3	13.6	25.8	—	5.7
1980	2.5	2.1	6.8	18.3	6.2	—	4.5	8.8	20.9	12.3	22.3	9.9	2.5	6.9
1981	5.2	17.1	15.9	7.5	18.2	7.9	8.8	9.0	4.3	4.2	8.8	14.7	11.9	9.1
1982	—	11.1	11.2	7.2	14.8	3.7	—	4.5	8.6	4.2	4.3	4.8	—	5.1
1983	—	4.7	6.5	11.7	2.8	7.0	12.8	18.1	8.7	8.4	4.3	—	2.2	5.2
1984	—	2.4	2.1	6.8	5.4	6.6	4.1	9.0	4.4	4.3	12.9	—	8.6	4.2
1985	2.6	5.1	2.1	8.9	—	12.4	12.0	18.0	8.9	4.3	—	—	10.4	5.3

Table A-27 Saskatchewan: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	5.4	10.3	17.4	19.9	16.8	20.9	37.3	34.5	40.4	36.6	19.4	19.2	14.3
1961	—	8.0	13.8	10.5	16.6	3.4	27.8	48.1	33.6	29.7	48.8	65.8	34.3	16.7
1962	2.0	12.9	20.5	14.5	20.5	6.8	24.6	25.8	29.2	19.5	30.3	6.7	15.4	12.5
1963	4.0	7.5	20.3	15.0	14.1	30.9	7.1	11.1	28.8	43.3	18.0	69.0	36.7	15.4
1964	—	7.2	6.6	30.3	39.6	6.9	17.7	44.3	36.4	19.0	17.4	7.0	24.5	14.0
1965	1.9	7.0	32.4	22.8	11.0	17.5	35.6	37.0	27.9	46.3	16.9	28.4	6.2	15.2
1966	3.8	6.7	15.9	30.2	18.6	21.3	7.2	33.4	27.6	22.5	16.5	49.6	15.4	13.7
1967	3.7	10.8	9.0	—	7.7	14.5	10.9	48.5	19.6	31.0	21.4	35.2	27.8	12.7
1968	1.8	16.7	25.4	29.8	19.6	29.8	7.3	15.0	23.5	21.7	20.8	41.1	15.4	14.5
1969	1.9	14.5	8.1	11.0	28.0	46.0	18.4	30.2	23.6	42.9	20.5	26.5	12.5	15.1
1970	3.8	8.1	20.3	26.4	21.6	25.0	50.4	31.1	27.9	34.3	20.1	32.5	31.7	18.2
1971	1.9	16.4	11.4	14.9	12.6	16.2	11.6	34.4	32.1	46.7	20.2	6.2	19.1	14.0
1972	—	16.1	59.9	26.1	21.7	46.8	39.8	46.5	44.4	16.9	34.7	42.2	28.6	24.3
1973	2.0	21.8	18.7	21.7	39.5	35.7	45.3	23.9	32.0	38.5	29.3	11.9	25.2	20.0
1974	—	19.8	27.1	24.6	34.8	32.3	47.0	12.1	28.0	21.5	28.8	17.8	25.4	18.7
1975	2.0	25.7	31.3	32.5	33.8	18.5	13.0	32.8	20.2	30.0	65.4	5.9	34.7	21.3
1976	—	22.3	33.5	42.0	27.0	26.4	30.2	16.6	32.6	26.3	18.8	5.8	28.2	19.6
1977	8.5	45.6	49.2	34.4	21.4	25.9	26.2	8.4	29.0	30.2	23.5	39.3	27.9	24.8
1978	11.0	43.8	51.3	24.5	26.3	20.5	17.5	33.5	33.2	29.9	52.1	33.1	36.5	26.6
1979	2.3	35.9	43.8	28.3	15.5	35.4	39.3	16.8	20.9	38.0	37.7	38.3	26.8	23.8
1980	2.4	36.4	36.6	31.8	23.2	41.5	17.4	29.7	54.6	17.0	32.9	26.6	35.1	24.5
1981	4.9	41.4	42.3	31.3	29.1	38.2	29.3	26.2	25.2	46.9	9.3	15.7	45.5	26.1
1982	2.5	57.4	55.2	42.4	42.4	28.5	17.2	31.0	16.9	34.4	32.4	41.4	39.2	29.7
1983	2.5	24.3	36.7	36.5	24.4	37.0	25.0	26.7	21.3	21.6	27.5	36.1	59.9	24.5
1984	2.5	39.2	35.1	22.3	23.1	41.3	28.3	22.2	51.9	21.8	31.8	21.1	21.4	22.8
1985	—	21.6	46.8	26.3	17.2	21.0	42.8	22.1	30.6	34.9	13.7	10.5	31.3	20.8

Table A-28 Alberta: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	4.2	15.9	13.8	10.6	13.4	11.4	14.7	8.8	16.9	45.1	22.2	15.6	9.2
1961	1.5	4.0	9.0	9.4	13.4	14.2	12.3	18.5	27.4	18.4	18.4	22.1	13.0	8.9
1962	1.5	4.8	4.4	8.4	12.3	7.5	14.5	19.4	16.6	23.8	29.9	15.4	15.8	8.5
1963	0.7	3.6	5.3	11.6	10.2	4.2	20.0	10.8	11.3	13.6	33.7	21.2	15.5	7.6
1964	0.7	5.1	10.5	13.9	16.4	17.8	17.3	17.2	17.2	45.5	20.9	32.7	15.1	11.0
1965	1.3	4.9	9.2	10.8	16.6	13.6	19.3	23.4	22.7	22.2	27.0	40.8	17.8	11.0
1966	1.9	4.6	17.6	6.5	13.8	15.7	15.7	16.7	25.3	28.9	19.6	8.5	18.9	10.0
1967	1.2	6.6	12.0	11.7	11.7	13.6	24.3	16.4	15.9	22.9	19.1	11.0	4.3	9.2
1968	1.8	7.7	17.9	11.1	13.7	24.0	20.7	16.0	9.9	25.5	18.7	5.3	9.8	10.2
1969	2.9	12.7	19.8	22.0	14.6	14.5	22.6	23.9	27.8	27.8	12.2	7.7	8.2	12.6
1970	1.7	14.9	23.7	13.9	20.3	13.2	13.5	26.3	23.9	28.3	23.3	26.8	14.7	13.3
1971	1.1	14.3	16.2	16.0	13.0	13.2	29.5	18.2	18.8	9.2	17.3	9.5	11.7	11.2
1972	—	17.5	21.0	12.0	21.4	18.3	27.2	24.5	19.6	22.5	13.0	9.3	11.5	12.9
1973	1.1	16.9	20.5	10.4	20.3	19.4	16.4	23.3	23.5	20.6	20.0	22.3	6.2	12.8
1974	1.0	19.3	28.0	23.5	24.4	17.2	23.4	20.8	31.0	29.3	15.6	21.8	13.2	16.3
1975	1.6	17.5	23.9	17.2	13.0	25.4	25.1	21.2	28.0	17.1	21.5	31.8	10.4	15.0
1976	2.1	19.7	30.1	21.2	24.1	19.9	20.9	24.0	22.8	23.3	32.5	18.6	14.5	16.8
1977	3.3	26.0	30.7	17.9	15.4	20.7	22.4	32.6	38.5	27.2	15.7	21.7	14.0	18.1
1978	3.9	16.7	22.4	22.0	20.8	23.9	29.3	25.1	25.7	25.0	20.2	15.5	17.7	16.9
1979	1.2	19.7	25.8	19.6	17.6	16.8	32.6	27.7	20.8	22.9	10.7	16.7	6.0	15.6
1980	2.9	21.0	26.2	28.4	28.9	20.3	13.0	29.5	26.5	17.7	32.4	23.0	17.5	18.7
1981	2.8	18.7	19.3	11.3	20.4	23.6	22.6	25.6	20.4	29.1	17.3	27.9	15.8	15.4
1982	2.8	15.1	19.9	18.6	20.5	16.9	23.1	28.0	28.7	21.7	19.0	20.4	14.5	15.5
1983	1.7	19.6	17.7	22.1	23.1	20.6	26.0	28.7	26.3	25.6	15.6	20.1	15.8	16.7
1984	3.5	15.5	22.6	18.1	22.6	18.2	29.0	23.0	35.1	28.6	29.1	20.0	16.1	17.2
1985	1.2	14.4	20.0	13.5	15.3	17.6	18.5	15.5	14.7	21.5	13.8	12.9	18.7	12.6

Table A-29 Alberta: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	4.6	8.8	2.2	4.5	2.6	3.0	—	—	5.8	14.0	3.8	2.4
1961	—	2.0	2.2	2.2	—	6.6	—	14.7	7.3	4.5	11.4	—	—	2.5
1962	1.5	—	2.2	2.2	—	—	9.8	8.5	—	13.0	10.9	6.7	10.4	2.9
1963	—	1.8	—	4.3	4.3	—	9.5	2.8	—	—	5.2	13.0	6.7	2.2
1964	—	—	6.2	8.6	4.3	8.6	9.2	5.4	9.7	24.2	5.0	6.3	3.2	4.4
1965	1.3	—	2.0	6.5	4.3	2.2	6.8	18.5	9.3	7.8	4.8	18.4	12.5	4.4
1966	—	—	5.8	6.4	6.6	6.5	15.8	10.4	6.1	11.3	18.7	6.0	—	4.6
1967	—	1.5	1.8	6.3	2.2	6.5	15.6	7.6	8.8	3.6	4.5	5.8	2.9	3.7
1968	—	1.4	3.4	10.1	6.5	23.9	11.1	4.9	2.9	7.0	13.1	—	2.8	4.8
1969	2.4	1.4	15.8	5.7	10.6	8.7	17.7	7.2	8.4	20.1	4.2	—	8.3	6.4
1970	1.1	5.3	9.2	10.9	12.3	10.6	8.5	16.0	10.8	9.6	—	10.1	5.3	6.4
1971	—	3.8	4.2	1.7	6.1	8.5	22.0	6.9	5.4	3.1	7.9	—	7.7	4.4
1972	—	11.1	6.7	3.2	15.8	10.6	17.5	6.7	7.9	6.0	3.8	—	2.5	5.8
1973	—	9.6	6.8	5.9	11.2	4.2	8.6	20.5	19.7	5.9	11.0	4.5	9.6	6.8
1974	—	9.3	15.7	15.6	12.5	18.7	17.1	11.3	16.6	29.2	6.9	17.5	9.2	10.3
1975	—	5.6	7.4	10.6	9.9	14.0	12.7	17.6	21.0	8.5	3.3	8.5	10.9	7.3
1976	1.1	9.5	15.3	4.9	11.4	9.7	10.4	10.8	18.1	19.0	12.8	12.2	2.1	8.5
1977	1.1	8.4	9.4	8.2	8.6	11.0	14.3	14.9	13.5	20.4	9.3	7.8	14.1	8.2
1978	1.1	4.0	9.9	5.6	9.3	8.7	22.1	8.4	18.1	17.2	15.1	3.8	11.5	7.7
1979	1.2	8.8	7.7	—	7.4	6.6	25.5	16.5	20.1	9.4	—	7.1	11.0	7.0
1980	2.4	9.7	9.3	8.9	15.1	15.4	7.6	14.3	13.1	7.0	20.0	26.9	14.0	9.4
1981	1.1	3.8	3.1	5.3	6.4	13.0	19.8	13.9	10.6	20.7	14.0	26.3	6.7	7.2
1982	—	3.9	6.1	7.4	8.2	10.4	8.6	11.7	16.5	11.4	7.9	3.2	4.9	6.0
1983	1.2	5.1	5.4	7.1	11.9	14.6	14.7	19.2	20.3	11.2	10.1	9.5	6.2	7.9
1984	1.8	4.3	7.3	7.8	14.4	9.3	20.4	15.1	18.3	15.6	14.6	9.4	7.5	8.5
1985	—	5.5	3.4	4.8	5.6	10.1	10.6	7.4	2.0	6.6	2.4	9.1	5.7	4.6

Table A-30 Alberta: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	8.3	27.2	18.4	18.3	22.1	19.9	25.4	16.4	30.6	77.7	28.9	27.9	15.5
1961	3.0	6.0	15.8	16.1	25.6	21.6	24.2	22.0	45.3	29.7	23.6	40.7	23.8	14.9
1962	1.4	9.4	6.6	14.3	23.5	14.8	19.0	29.6	31.7	33.0	46.1	23.0	29.2	13.8
1963	1.4	5.4	10.7	18.7	15.7	8.3	30.5	18.5	21.7	25.4	58.0	28.4	28.7	12.8
1964	1.3	10.2	14.8	19.0	27.7	26.6	25.3	28.6	24.2	64.5	34.5	56.2	28.3	17.2
1965	1.3	9.7	16.5	15.1	28.0	24.2	31.7	28.2	35.4	35.3	46.0	61.1	33.8	17.4
1966	3.7	9.2	30.1	6.6	20.5	24.3	15.6	22.8	43.6	45.3	20.5	10.9	36.3	15.1
1967	2.4	11.7	22.4	17.1	20.6	20.2	32.9	25.0	22.7	41.0	32.1	15.9	8.3	14.5
1968	3.5	13.8	32.7	12.2	20.6	24.0	30.0	26.9	16.8	43.0	23.7	10.2	19.2	15.3
1969	3.4	23.7	24.0	38.3	18.4	19.8	27.2	40.6	46.8	35.2	19.5	14.7	16.4	18.5
1970	2.2	23.9	38.4	16.9	28.2	15.6	18.1	36.6	36.8	46.4	45.3	42.3	29.6	20.0
1971	2.1	24.4	28.3	30.1	19.7	17.5	36.3	29.4	32.0	15.2	26.4	18.3	23.9	17.8
1972	—	23.6	35.5	20.7	26.8	25.3	35.9	41.9	31.2	38.7	22.0	17.9	23.6	19.9
1973	2.1	23.8	34.2	14.9	29.0	33.5	23.5	26.0	27.2	35.3	28.9	39.5	12.8	18.7
1974	2.1	28.7	40.3	31.5	35.8	15.8	29.1	29.8	45.3	29.3	24.3	26.0	27.6	22.1
1975	3.1	28.8	40.1	23.9	16.1	36.3	36.3	24.6	35.0	25.8	40.0	55.3	22.1	22.2
1976	3.1	29.3	44.4	36.8	30.4	29.8	30.5	36.3	27.6	27.7	52.9	25.1	31.0	24.9
1977	5.3	42.7	51.4	27.1	22.0	30.1	30.0	48.8	63.3	34.2	22.6	36.4	30.4	27.7
1978	6.6	28.7	34.4	37.6	31.9	38.3	35.9	40.5	33.1	33.1	25.6	27.9	38.7	25.9
1979	1.1	30.0	43.2	38.3	27.4	26.5	39.3	37.9	21.5	36.9	22.0	27.1	13.4	23.9
1980	3.4	31.8	42.4	47.1	42.1	24.9	18.2	43.4	39.2	28.8	45.7	18.6	39.0	27.7
1981	4.3	32.8	34.3	16.6	33.5	33.5	25.2	36.3	29.4	37.8	20.7	29.6	35.8	23.2
1982	5.4	25.8	32.9	28.7	31.8	23.1	36.6	43.1	40.0	32.2	30.9	39.8	33.2	24.6
1983	2.2	33.3	29.4	35.6	33.3	26.2	36.5	37.6	31.8	40.0	21.7	32.1	36.0	25.2
1984	5.6	26.2	37.6	27.7	30.1	26.5	37.0	30.4	50.7	41.5	44.6	32.0	37.1	25.8
1985	2.3	22.9	36.3	21.8	24.2	24.7	26.0	23.1	26.6	36.0	26.1	17.3	36.0	20.4

Table A-31 British Columbia: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	3.7	5.2	8.6	8.8	11.3	20.6	19.2	22.3	24.4	19.8	17.5	15.4	10.1
1961	0.7	2.7	9.4	7.8	13.4	14.6	14.9	22.7	24.0	28.2	23.1	23.6	28.7	11.8
1962	1.3	3.3	9.2	10.0	13.6	9.4	12.8	18.4	25.3	27.2	26.0	23.6	15.4	10.3
1963	1.2	7.7	12.6	9.0	20.1	16.3	19.8	21.9	29.7	33.1	27.0	25.4	13.5	13.0
1964	0.6	7.8	14.5	15.7	11.9	11.9	25.3	24.6	33.6	17.3	29.4	28.5	21.6	13.6
1965	—	5.4	11.0	16.0	19.9	23.6	18.8	25.1	29.2	33.0	20.5	35.9	28.1	14.8
1966	1.1	5.0	11.6	12.3	11.4	18.9	20.7	26.3	31.1	26.6	25.5	18.2	19.4	12.8
1967	—	8.3	13.4	22.8	18.6	16.2	20.8	18.5	17.9	32.1	20.1	30.1	20.7	13.3
1968	1.5	9.7	17.0	22.2	25.6	20.9	27.6	20.4	26.8	30.4	24.7	24.0	14.1	15.2
1969	1.0	6.0	23.3	14.3	12.1	24.0	27.4	33.7	27.3	21.6	40.6	22.9	27.7	16.3
1970	—	6.3	18.1	19.4	20.8	25.2	28.6	34.9	31.4	30.0	21.9	16.4	17.3	16.0
1971	0.4	7.0	22.7	16.9	21.1	27.5	27.2	32.5	40.3	29.1	24.8	24.9	23.4	17.4
1972	1.3	8.6	23.0	24.4	18.4	23.8	22.3	25.9	28.2	28.5	21.5	19.9	15.7	15.8
1973	1.3	13.7	25.3	23.3	24.0	20.2	21.6	37.5	28.9	33.2	31.7	31.7	15.3	18.5
1974	1.3	11.4	29.1	24.8	16.7	25.7	20.5	29.5	29.2	24.0	22.8	22.5	16.2	17.0
1975	0.8	12.0	28.6	21.3	18.5	19.9	23.1	28.1	31.6	29.5	20.4	34.0	7.9	16.8
1976	1.3	15.1	25.7	20.1	17.5	11.7	27.4	36.4	27.6	24.8	20.2	13.0	11.5	16.4
1977	2.3	12.8	26.5	23.5	22.2	25.3	22.1	28.0	31.4	26.9	18.1	26.9	14.2	17.5
1978	1.9	18.8	21.7	29.4	21.5	21.0	24.3	24.2	21.1	25.2	24.6	29.3	18.5	18.3
1979	1.0	15.9	26.6	20.8	16.8	16.9	23.9	23.5	27.9	19.8	26.6	20.7	8.6	16.3
1980	1.5	11.5	20.6	19.5	20.4	16.6	21.0	16.8	27.5	19.5	24.1	17.7	11.6	15.0
1981	1.9	13.8	20.7	20.5	21.2	19.2	20.2	13.6	15.8	16.8	13.3	18.5	14.3	14.5
1982	1.0	12.9	15.0	27.5	20.6	13.3	10.0	15.6	26.3	30.0	20.7	16.3	12.6	15.0
1983	1.0	12.1	20.0	17.1	20.5	15.9	18.5	19.0	19.7	16.0	24.5	18.1	16.3	14.8
1984	1.0	12.9	15.6	15.4	19.3	17.5	15.4	15.7	18.9	20.2	12.2	18.0	15.5	13.4
1985	1.0	12.3	12.7	12.0	11.6	12.1	14.9	16.1	16.3	9.3	10.9	13.3	15.3	16.0

Table A-32 British Columbia: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	1.9	—	6.1	3.6	3.4	12.9	12.3	—	3.2	10.9	7.8	16.8	4.6
1961	—	—	4.2	2.0	5.5	6.8	3.6	17.8	10.0	15.9	—	7.8	7.2	4.5
1962	1.3	—	2.0	—	5.6	3.4	7.1	3.9	16.7	9.2	7.2	11.7	1.7	3.6
1963	1.3	4.8	7.8	4.1	11.4	5.1	10.4	7.5	20.3	32.2	21.1	19.4	8.5	7.8
1964	—	1.5	—	13.9	3.8	6.9	11.9	14.8	29.9	2.8	10.3	23.1	3.3	6.4
1965	—	1.4	3.4	1.9	11.2	15.4	10.0	16.3	12.2	18.4	13.3	18.9	14.6	7.3
1966	—	2.6	3.1	3.6	5.5	10.2	13.1	26.6	23.4	27.3	9.2	7.2	9.3	7.8
1967	—	2.4	10.0	11.6	5.3	15.2	17.6	15.4	15.0	25.6	8.8	24.4	7.5	8.5
1968	—	3.5	10.6	9.3	20.6	10.2	22.2	15.0	16.4	8.7	11.1	20.3	10.2	8.9
1969	1.0	—	8.7	14.6	13.3	13.5	12.8	30.5	26.6	12.3	26.4	19.4	15.6	10.7
1970	—	3.2	6.9	14.6	6.2	14.6	14.0	34.5	22.8	12.0	10.4	16.2	12.3	9.6
1971	—	9.2	9.8	12.8	18.5	18.3	16.2	27.6	28.9	24.0	16.4	14.7	13.3	12.1
1972	0.9	6.9	11.3	9.5	10.2	17.8	17.8	19.8	19.9	23.4	15.6	19.9	11.6	10.5
1973	0.9	5.6	10.2	11.8	16.1	12.5	14.1	17.0	14.1	35.8	23.6	29.6	13.8	11.3
1974	—	4.5	13.5	14.0	9.9	16.4	7.7	27.7	21.1	21.2	12.1	7.8	10.9	10.0
1975	—	4.4	8.4	8.6	11.6	17.2	16.8	19.8	19.1	22.3	9.4	22.1	9.4	9.6
1976	—	6.0	15.3	8.3	17.3	11.3	17.1	21.4	11.6	22.7	12.3	2.3	14.8	10.0
1977	0.9	4.2	10.7	13.9	15.1	15.0	7.6	21.4	23.4	14.0	10.3	21.3	2.2	9.6
1978	1.0	8.3	6.9	10.9	9.2	10.4	21.3	16.8	14.9	16.5	24.0	16.5	10.6	10.0
1979	2.0	7.5	10.1	8.8	5.9	9.9	13.4	12.2	22.5	10.1	17.2	13.7	12.2	9.0
1980	—	2.5	9.7	7.6	9.2	2.3	5.7	9.1	21.0	10.0	15.0	3.7	11.7	6.8
1981	1.0	4.3	7.9	9.6	12.6	13.0	8.0	13.4	10.2	7.0	3.1	13.9	12.1	7.6
1982	1.0	2.6	5.5	8.6	8.3	6.0	3.8	8.8	13.2	18.4	10.4	5.1	13.2	6.7
1983	—	4.6	5.5	6.9	9.0	6.7	7.3	13.0	11.6	8.6	17.2	15.1	12.6	7.3
1984	—	7.6	4.7	6.9	8.0	7.3	5.8	5.6	8.7	7.1	9.7	11.6	8.7	6.0
1985	1.1	7.8	0.8	3.8	4.8	7.8	7.8	6.8	5.8	4.3	5.6	3.3	6.0	4.3

Table A-33 British Columbia: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	5.4	10.2	10.8	13.7	19.5	28.8	26.0	42.4	42.8	28.6	27.0	29.2	15.4
1961	1.3	5.2	14.6	13.2	20.7	22.8	26.7	27.5	37.0	39.0	45.6	39.8	55.6	18.9
1962	1.2	6.4	16.3	19.4	20.9	15.7	18.9	32.9	33.5	43.0	43.8	35.6	30.3	16.8
1963	1.2	10.5	17.3	13.8	28.2	27.6	29.7	36.5	38.7	33.9	32.5	31.4	26.8	18.1
1964	1.2	13.9	28.7	17.5	19.4	17.0	39.7	34.7	37.2	30.5	46.9	54.0	43.6	20.6
1965	—	9.2	18.3	30.0	28.0	31.6	28.0	34.4	45.8	46.7	27.1	53.0	57.3	22.2
1966	2.1	7.4	19.7	20.8	16.8	27.0	28.4	26.1	38.7	26.0	40.8	29.6	40.5	17.7
1967	—	14.0	16.6	33.7	30.8	17.0	24.1	21.7	20.9	38.4	30.9	36.1	43.6	18.0
1968	2.9	15.6	23.2	34.6	30.2	30.7	32.8	26.2	37.5	51.7	37.8	27.8	31.1	21.5
1969	0.9	11.7	37.7	14.1	10.9	33.5	41.3	37.0	27.9	30.9	54.5	26.4	60.4	21.8
1970	—	9.2	28.9	23.9	34.2	34.6	42.3	35.4	40.5	48.2	33.3	16.6	38.2	22.2
1971	0.9	4.9	35.4	20.8	23.5	35.8	37.3	37.5	52.4	34.3	33.3	35.1	52.1	22.7
1972	1.7	10.3	34.6	38.5	26.1	29.1	26.4	32.0	37.0	33.8	27.5	19.8	35.1	21.1
1973	1.7	21.5	40.0	34.6	31.5	27.1	28.4	57.8	44.5	30.5	40.1	38.7	34.4	25.6
1974	2.5	18.1	44.3	35.5	23.0	34.3	31.9	31.3	37.7	26.9	34.0	37.9	36.5	23.9
1975	1.7	9.3	48.3	33.8	25.1	22.4	28.8	36.1	44.7	37.5	32.1	46.8	17.8	23.9
1976	2.6	24.0	36.3	31.7	17.7	12.1	36.8	50.6	44.5	27.0	28.9	24.6	26.0	22.7
1977	3.6	21.1	42.5	33.0	29.6	35.2	35.6	34.1	39.8	41.2	26.8	33.0	32.3	25.5
1978	2.8	28.9	36.8	47.9	33.5	31.2	27.1	31.2	27.4	34.9	25.3	43.5	42.3	26.7
1979	—	24.0	43.3	32.9	27.5	23.7	33.8	33.8	33.3	30.4	37.4	28.7	19.9	23.7
1980	2.9	20.1	31.5	31.7	31.3	30.4	35.5	23.9	34.0	30.1	34.6	33.7	26.8	23.3
1981	2.8	22.9	33.6	31.5	29.6	25.1	31.8	13.7	21.7	27.5	25.2	23.8	33.3	21.5
1982	0.9	22.6	24.4	46.8	32.7	20.3	15.9	22.0	38.6	42.5	32.6	29.4	29.5	23.4
1983	1.9	19.2	34.2	27.5	31.8	24.8	29.3	24.6	27.4	23.8	33.0	21.7	38.5	22.3
1984	2.0	18.0	26.2	24.3	30.5	27.4	24.6	25.4	28.5	33.7	17.2	25.6	36.8	21.0
1985	1.0	16.7	24.2	20.3	18.4	16.2	21.7	25.0	26.1	14.4	18.7	25.1	27.9	16.6

Table A-34 Yukon Territory: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	181.8	—	—	—	—	—	—	—	14.3
1961	—	—	90.9	—	—	—	111.1	—	166.7	250.0	333.3	—	—	34.2
1962	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1963	—	—	—	—	—	83.3	100.0	—	—	—	—	—	—	13.3
1964	—	—	90.9	—	—	—	—	142.8	200.0	200.0	—	—	—	26.7
1965	—	—	—	90.9	90.9	—	—	—	—	—	—	—	—	14.3
1966	—	—	90.9	—	—	—	111.1	—	200.0	—	333.3	—	—	27.8
1967	—	—	—	—	—	90.9	111.1	—	—	—	—	—	—	13.3
1968	—	—	76.9	—	90.9	--	—	—	—	—	666.7	500.0	—	33.3
1969	—	—	—	71.4	83.3	—	100.0	—	285.7	—	—	500.0	—	37.5
1970	—	—	100.0	76.9	230.8	90.9	181.8	222.2	285.7	—	250.0	—	—	81.3
1971	—	—	—	102.6	66.0	—	—	113.0	292.0	181.8	270.3	—	—	43.5
1972	—	—	55.6	—	—	83.3	83.3	—	—	—	250.0	333.3	—	26.5
1973	43.5	—	66.7	—	—	83.3	83.3	—	—	—	200.0	—	--	30.5
1974	—	117.6	71.4	50.0	—	—	—	—	—	—	—	—	—	20.6
1975	—	—	62.5	—	—	66.7	—	—	25.0	—	—	—	—	19.2
1976	—	—	42.3	—	49.4	—	—	95.2	—	172.4	—	—	—	18.3
1977	—	95.2	43.5	—	—	—	83.3	—	—	—	—	333.3	—	23.3
1978	—	—	80.0	83.3	47.6	—	90.9	—	—	142.9	—	—	—	32.3
1979	—	41.7	40.0	—	100.0	—	181.8	—	—	—	—	—	—	27.8
1980	—	41.7	76.9	83.3	157.9	71.4	181.8	—	—	—	—	—	—	51.4
1981	—	45.1	84.4	—	38.2	—	76.0	—	—	—	—	—	—	21.6
1982	48.4	—	82.4	—	—	48.8	70.9	97.8	—	135.7	—	—	—	29.5
1983	—	50.0	47.6	160.0	—	50.0	—	—	—	—	—	—	--	35.9
1984	—	—	95.2	41.7	41.7	50.0	—	—	—	—	—	—	—	22.9
1985	—	52.6	45.5	41.7	115.4	—	62.5	90.9	—	—	—	—	—	35.1

-- = amount too small to be expressed.

Table A-35 Yukon Territory: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1961	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1962	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1963	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1964	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1965	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1966	—	—	—	—	—	—	250.0	—	—	—	—	—	—	15.2
1967	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1968	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1969	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1970	—	—	—	166.7	166.7	—	—	250.0	—	—	1000.0	—	—	54.1
1971	—	—	—	—	151.5	—	—	253.2	—	—	—	—	—	23.6
1972	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1973	—	—	—	—	—	—	200.0	—	—	—	—	—	—	11.0
1974	—	125.0	—	—	—	—	—	—	—	—	—	—	—	11.1
1975	—	—	—	—	—	—	—	—	500.0	—	—	—	—	20.8
1976	—	—	—	—	—	—	—	227.3	—	—	—	—	—	9.9
1977	—	100.0	—	—	—	—	—	—	—	—	—	—	—	10.0
1978	—	—	83.3	—	100.0	—	—	—	—	—	—	—	—	19.6
1979	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1980	—	—	—	—	—	—	200.0	—	—	—	—	—	—	9.8
1981	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1982	—	—	—	—	—	—	—	—	—	325.7	—	—	—	8.9
1983	—	—	—	76.9	—	—	—	—	—	—	—	—	—	9.4
1984	—	—	—	76.9	83.3	100.0	—	—	—	—	—	—	—	28.6
1985	—	—	—	—	76.9	—	—	—	—	—	—	—	—	9.1

Table A-36 Yukon Territory: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	333.3	—	—	—	—	—	—	—	25.3
1961	—	—	166.7	—	—	—	200.0	—	250.0	333.3	500.0	—	—	61.0
1962	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1963	—	—	—	—	—	142.8	166.7	—	—	—	—	—	—	24.1
1964	—	—	166.7	—	—	—	—	250.0	333.3	333.3	—	—	—	48.2
1965	—	—	—	166.7	166.7	—	—	—	—	—	—	—	—	26.0
1966	—	—	166.7	—	—	—	—	—	333.3	—	500.0	—	—	38.5
1967	—	—	—	—	—	166.7	200.0	—	—	—	—	—	—	24.7
1968	—	—	142.8	—	166.7	—	—	—	—	—	1000.0	1000.0	—	61.0
1969	—	—	—	125.0	142.8	—	166.7	—	500.0	—	—	1000.0	—	69.0
1970	—	—	200.0	—	285.7	166.7	333.3	200.0	500.0	—	—	—	—	104.7
1971	—	—	—	186.9	—	—	—	—	512.8	322.6	425.5	—	—	60.5
1972	—	—	111.1	—	—	142.9	142.9	—	—	—	500.0	500.0	—	49.0
1973	83.3	—	142.9	—	—	142.9	—	—	—	—	333.3	—	—	47.2
1974	—	111.1	142.9	100.0	—	—	—	—	—	—	—	—	—	28.8
1975	—	—	125.0	—	—	111.1	—	—	—	—	—	—	—	18.0
1976	—	—	84.4	—	89.3	—	—	—	—	294.1	—	—	—	25.6
1977	—	90.9	90.9	—	—	—	142.9	—	—	—	—	500.0	—	34.8
1978	—	—	83.3	166.7	—	—	166.7	—	—	250.0	—	—	—	43.5
1979	—	83.3	76.9	—	200.0	—	333.3	—	—	—	—	—	—	52.6
1980	—	83.3	153.8	181.8	300.0	125.0	166.7	—	—	—	—	—	—	89.3
1981	—	85.1	177.0	—	73.3	—	135.1	—	—	—	—	—	—	41.1
1982	92.5	—	172.3	—	—	91.7	125.5	173.0	—	—	—	—	—	48.2
1983	—	90.9	100.0	250.0	—	100.0	—	—	—	—	—	—	—	59.8
1984	—	—	200.0	—	—	—	—	—	—	—	—	—	—	17.7
1985	—	100.0	90.0	90.9	153.8	—	125.0	166.7	—	—	—	—	—	59.3

– – = amount too small to be expressed.

Table A-37 Northwest Territories: Suicide rates per 100,000 total population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	71.4	—	—	125.0	—	—	—	—	9.1
1961	—	—	43.5	—	—	66.7	—	111.1	—	—	—	—	—	13.0
1962	—	—	—	—	—	117.6	—	300.0	—	—	250.0	—	--	28.0
1963	—	—	—	—	—	—	—	—	—	—	—	333.3	—	3.8
1964	—	—	—	130.4	50.0	—	—	—	—	142.8	—	—	—	18.5
1965	—	—	43.5	—	—	—	—	—	—	—	—	—	—	3.7
1966	—	—	—	—	47.6	58.8	—	—	—	—	—	—	--	10.4
1967	—	—	—	—	47.6	—	—	90.9	—	—	—	—	—	6.9
1968	—	—	—	41.7	—	—	—	—	—	428.6	—	—	—	13.3
1969	—	—	35.7	—	—	—	—	—	222.2	142.8	—	—	—	12.9
1970	—	35.7	80.0	—	—	—	—	—	—	—	—	—	—	9.1
1971	—	—	58.3	32.1	—	49.9	—	—	—	135.1	—	—	—	14.4
1972	—	96.8	117.6	—	—	45.5	—	—	—	—	—	—	—	25.0
1973	—	60.6	60.6	—	35.7	—	—	—	83.3	125.0	—	—	--	21.2
1974	20.4	58.8	33.3	29.4	34.5	—	—	—	—	—	—	—	—	16.0
1975	—	55.6	66.7	60.6	—	45.5	—	—	—	—	—	—	—	18.5
1976	—	45.9	46.2	—	63.9	41.8	—	—	—	—	—	—	—	16.4
1977	—	22.2	111.1	68.2	28.6	—	47.6	58.8	—	—	—	—	—	27.7
1978	18.9	142.9	177.8	75.0	—	40.0	47.6	55.6	—	181.8	—	—	—	55.0
1979	—	43.5	54.1	33.3	—	47.6	111.1	—	—	—	—	—	—	18.4
1980	—	37.0	43.5	27.8	34.5	—	—	52.6	71.4	90.9	—	—	—	20.9
1981	18.9	98.8	63.6	20.9	—	—	—	—	—	—	—	—	—	21.9
1982	—	38.4	20.2	—	95.3	32.8	—	—	—	—	—	—	—	17.0
1983	—	148.1	76.9	57.7	45.5	30.3	83.3	—	—	90.9	—	—	—	43.4
1984	—	55.6	94.3	56.6	21.7	29.4	40.0	—	125.0	—	—	—	--	34.4
1985	—	56.6	35.7	74.1	40.0	—	—	—	—	—	125.0	—	—	25.5

-- = amount too small to be expressed.

Table A-38 Northwest Territories: Suicide rates per 100,000 female population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1961	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1962	—	—	—	—	—	142.8	—	—	—	—	—	—	—	8.9
1963	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1964	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1965	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1966	—	—	—	—	—	—	—	—	—	—	—	—	--	7.6
1967	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1968	—	—	—	—	—	—	—	—	—	—	—	—	—	7.1
1969	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1970	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1971	—	—	59.5	—	—	—	—	—	—	—	—	—	—	6.0
1972	—	—	—	—	—	—	—	—	—	—	—	—	--	5.8
1973	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1974	—	58.8	—	—	—	—	—	—	—	—	—	—	—	—
1975	—	—	66.7	—	—	100.0	—	—	—	—	—	—	—	11.2
1976	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1977	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1978	—	125.0	43.5	—	—	—	—	125.0	—	—	—	—	—	23.7
1979	—	—	43.5	—	—	—	—	—	—	—	—	—	—	4.7
1980	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1981	—	40.7	87.5	—	—	—	—	—	—	—	—	—	—	13.8
1982	—	40.1	42.1	—	52.5	—	—	—	—	—	—	—	—	13.4
1983	—	38.5	—	—	—	—	90.9	—	—	—	—	—	—	13.1
1984	—	—	—	38.5	—	—	—	—	142.9	—	—	—	—	8.5
1985	—	40.0	—	—	—	—	—	—	—	—	—	—	—	4.1

-- = amount too small to be expressed.

Table A-39 Northwest Territories: Suicide rates per 100,000 male population age ten years and over, by 5-year age groups, 1960-1985

YEAR	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total
1960	—	—	—	—	—	111.1	—	—	200.0	—	—	—	—	16.1
1961	—	—	76.9	—	—	111.1	—	200.0	—	—	—	—	—	23.4
1962	—	—	—	—	—	100.0	—	500.0	—	—	500.0	—	--	43.5
1963	—	—	—	—	—	—	—	—	—	—	500.0	—	—	7.0
1964	—	—	—	230.8	83.3	—	—	—	—	250.0	—	—	—	34.0
1965	—	—	76.9	—	—	—	—	—	—	—	—	—	—	6.8
1966	—	—	—	—	83.3	100.0	—	—	—	—	—	—	—	12.8
1967	—	—	—	—	83.3	—	—	166.7	—	—	—	—	—	12.8
1968	—	—	—	76.9	—	—	—	—	—	-500.0	—	—	—	18.7
1969	—	—	66.7	—	—	—	—	—	400.0	250.0	—	—	—	24.4
1970	—	71.4	153.8	—	—	—	—	—	—	—	—	—	—	16.9
1971	—	—	57.0	60.1	—	90.9	—	—	—	241.0	—	—	—	21.9
1972	—	187.5	235.3	—	—	83.3	—	—	—	—	—	—	—	42.3
1973	—	117.6	117.6	—	66.7	—	—	—	166.7	250.0	—	—	--	40.4
1974	40.0	55.6	66.7	58.8	62.5	—	—	—	—	—	—	—	—	25.3
1975	—	111.1	66.7	117.6	—	—	—	—	—	—	—	—	—	25.1
1976	—	88.9	89.7	—	116.3	77.8	—	—	—	—	—	—	—	31.2
1977	—	43.5	217.4	125.0	52.6	—	90.9	100.0	—	—	—	—	—	52.6
1978	37.0	153.8	318.2	150.0	—	76.9	90.9	—	—	333.3	—	—	—	84.4
1979	—	—	43.5	111.1	62.5	—	90.9	181.8	—	—	—	—	—	31.5
1980	—	71.4	87.0	58.8	66.7	—	—	100.0	142.9	166.7	—	—	—	41.3
1981	36.2	153.8	41.1	41.9	—	—	—	—	—	—	—	—	—	29.2
1982	—	36.9	—	—	131.5	59.7	—	—	—	—	—	—	—	20.2
1983	—	250.0	148.1	115.4	83.3	55.6	76.9	—	—	—	—	—	--	70.9
1984	—	107.1	178.6	74.1	41.7	52.6	76.9	—	125.0	—	—	—	—	58.1
1985	—	71.4	69.0	142.9	76.9	—	—	—	—	—	200.0	—	—	—

-- = amount too small to be expressed.